

American Forests *and* Forest Life



September, 1926

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ADEQUATE FOREST FIRE PROTECTION by federal, state, and other agencies, individually and in co-operation; the REFORESTATION OF DENUDED LANDS, chiefly valuable for timber production or the protection of stream-flow; more extensive PLANTING OF TREES by individuals, companies, municipalities, states and the federal government; the ELIMINATION OF WASTE in the manufacture and consumption of lumber and forest products; the advancement of SOUND REMEDIAL FOREST LEGISLATION.

The ESTABLISHMENT OF NATIONAL AND STATE FORESTS where local and national interests show them to be desirable; the CONSERVATIVE MANAGEMENT OF PUBLIC AND PRIVATE FORESTS so that they may best serve the permanent needs of our citizens; the development of COMMUNITY FORESTS.

FOREST RECREATION as a growing need in the social development of the nation; the PROTECTION OF FISH AND GAME and other forms of wild life, under sound game laws; the ESTABLISHMENT OF FEDERAL AND STATE GAME PRESERVES and public shooting grounds; STATE AND NATIONAL PARKS and monuments where needed, to protect and perpetuate forest areas and objects of outstanding value; the conservation of America's WILD FLORA and FAUNA.

The EDUCATION OF THE PUBLIC, especially school children, in respect to our forests and our forest needs; a more aggressive policy of RESEARCH AND EDUCATIONAL EXTENSION in the science of forest production, management, and utilization, by the nation, individual states, and agricultural colleges; reforms in present methods of FOREST TAXATION, to the end that timber may be fairly taxed and the growing of timber crops increased.

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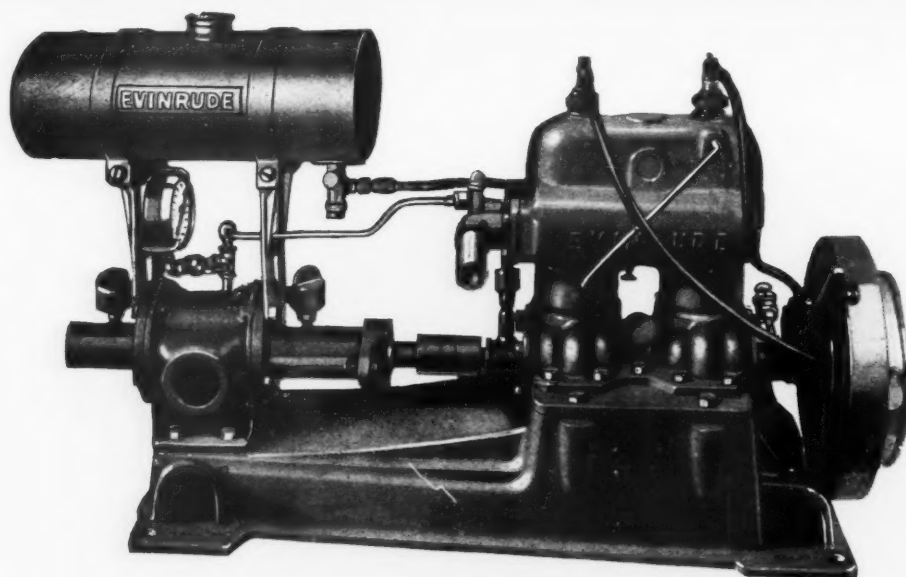
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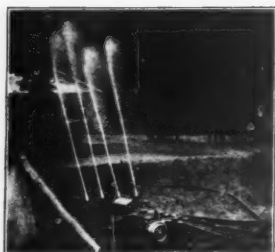
OUR "FIRE" ISSUE

As this number, announced as our special Forest Fire issue, goes to press, our heritage of green forests is burning up. Home of our wild life,—store-house of tomorrow's timber,—playground of many millions—all is being swept away. Dispatches from the fire lines in the West report enormous losses and untold suffering. How long shall this be permitted to go on?



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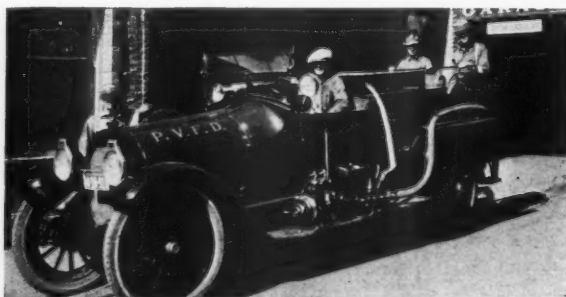
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"FORESTRY," says the official definition of the Society of American Foresters, "is the science and art of managing forests in continuity for forest purposes, i. e., for wood supplies and forest influences." What are "forest influences"? I am afraid that many have been inclined to think of them as including only those which have to do with climate, streamflow, and erosion. This is too narrow a view. Surely the influence of the forests on our health, comfort, and pleasure is too important to be overlooked. More and more as civilization increases in complexity and as cities grow at the expense of the country, it becomes necessary to have refuges to which we can flee for rest and recreation. Where better can one find physical, mental, and spiritual refreshment than in the forest? Which of its influences is more worth preserving? We hear

much nowadays about the call of the Great Outdoors. But who wants to answer the call of an Outdoors or to get back to a Nature without forests? We may be justly proud of the wonderful variety and extent of our coast line, of our myriads of beautiful lakes and streams, and of our many rugged mountains. But the charms of all these are set off and enhanced by the friendly forests. Without them seacoast, lake, stream, and mountain would be barren and inhospitable, game would disappear, and inland fish would decrease greatly. And, who would care to go hunting or fishing where there were no trees; who would plan a camping or motoring trip to a region without forests?

The influence of forests on recreation is due not only to the trees but to the wild life which they contain. Game, fish, birds, and the countless smaller animals which it harbors are all an integral part of the forest, and



DESOLATION FOLLOWING FIRE

A once green and friendly land laid waste by the forest's red enemy.

objects of increasing interest to all who visit the woods. We must recognize clearly that forests are real communities, not mere collections of individual trees. As Colonel Graves has put it, "they are rather land areas on which are associated various forms of plant and animal life. The forester must deal with all. Wild life is as essentially and legitimately an object of his care as are water, wood, and forage. Forest administration should be planned with a view to realizing all possible benefits from the land areas handled. It should take account of their indirect value for recreation and health as well as their value for the production of salable material; and of their value for the production of meat, hides, and furs of all kinds as well as for the production of wood and the protection of water supplies."

Now as the most spectacular enemy of the forest and the most serious destroyer of recreational values, forest fires are worthy of special consideration. Let me take them up from two standpoints — (1) the influence of forest fires on "campers," as we may generically speak of all those visiting the woods for recreation, whether their primary interest be camping, canoeing, hunting, fishing, hiking, motoring, or what not; and (2) the influence of campers on forest fires.

The effect of forest fires is so obviously inimical to the use of the forests for recreation as to require little comment. Reckless cutting, insect depredations, fungous diseases, and windfall may all be effective in destroying the beauty of the forest, but none of these can create quite such a scene of desolation as a fire that leaves not a living thing in its wake. No camper ever voluntarily pitched his tent among the blackened stubs of a fire-swept forest.

Less striking, but hardly less serious than their de-

struction of scenic values, is the effect of forest fires on wild life. Those animals that are not killed outright are driven from the area burned over, perhaps not to return for years. It has been said that the great Maine fire of 1825, by destroying large quantities of caribou feed, was responsible for driving many of these animals into Canada. There can be no doubt that fires, and particularly repeated fires, both directly and indirectly through their influence on the food supply, have greatly decreased the number of game animals, birds, and other forms of wild life which would otherwise populate our forests today.

In the case of inland fish, forest fires have an adverse

effect because of their influence on the water supply. Deforestation of the mountain forests at least tends to decrease the low water flow of streams, which is of prime importance in the maintenance of fish life. In Maine, for example, during the abnormally dry summer of 1921, it was estimated that millions of fish perished because of the complete or partial drying up of streams and because of the increased temperature



THE WAY TO HELP BURN UP THE WOODS

Building a camp-fire in a dense carpet of pine needles is playing right into the hands of the Red Enemy. It is dangerous and the wrong thing to do, even with the most careful watching.

George H. Cook

of the water resulting from the unusually small run-off in all of the streams. The deforestation caused by forest fires, destroying not only the surface cover but often also the organic matter in the soil, aggravates such a situation and tends to bring about a similar condition in more normal years. Still another way in which forest fires have killed vast quantities of fish is by affecting the character of the water. Forest streams suitable for brook trout are slightly acid. The fall of ashes into them makes the water alkaline and thus kills the fish.

Even surface fires which do comparatively little apparent damage are a real menace to recreation. By scarring and weakening the trees they increase the danger

of attacks from insects and fungi, which invariably leave the forest less attractive than they found it. Such fires also destroy the eggs and young of ground-nesting birds, kill small ground animals of various sorts, and if continued will have a real effect on the food supply, on streamflow, and on the character of the water coming from the burned areas.

How about the effect of campers on forest fires? Statistics compiled by the Forest Service show that for

tered guide, or even keeping them out of the woods altogether. Except in times of abnormal danger, however, I do not believe that we could very well prevent the use of the forests for recreation even if we would, and so great is their value for this purpose that few would advocate doing so even if we could. The woods must be made safe not by keeping people entirely out of them, but by getting those who visit them for recreation and other purposes to protect them as they would their own property.

Control measures must be based on recognition of the fact that the great majority of fires caused by campers are due purely and simply to carelessness. The number of those seeking refreshment in the forest who purposely set it on fire, is so small as to be negligible. Probably most of those who do start fires are not even aware of the fact. It is this very thoughtlessness and irresponsibility on the part of so many campers that makes their presence in the forest dangerous. If all campers took pains under all conditions, at all times, and at all places, to be careful with fire their presence in the woods would be a safeguard rather than a menace.

Carelessness can be lessened in two ways—by education, and by regulation of various sorts. Education is the more fundamental of the two and should be actively stimulated by every organization and individual inter-



George H. Cook

THE WAY TO DO IT

This is the proper way to prepare a place for a camp-fire in order to avoid the danger of its spreading beyond control.

the country as a whole 14.0 per cent, or practically one-seventh, of the total number of fires were due to campers. This record gives campers the unenviable distinction of ranking second only to railroads (14.9 per cent) in responsibility for forest fires, if we leave out "unknown" causes (24.1 per cent) which obviously cannot be classified and which doubtless include many fires set by campers but not positively traceable to them.

The more popular a region is for recreation purposes, the greater, of course, is the danger from campers. Leaving out of consideration miscellaneous and unknown causes, campers were the chief cause of forest fires in Maine and New York, ranked second only to railroads in New Hampshire, and came after brush-burning and railroads in Vermont.

It must also be remembered that the number of fires actually started by, but not traceable to, campers is in all probability correspondingly high among those attributed to unknown causes.

This is a serious situation. What are we going to do about it? Drastic measures have been suggested, such as the complete prohibition of smoking in the forest, the registration of campers, prohibiting campers from entering the woods unless in charge of a regis-



George H. Cook

AND THE WAY IT SHOULD BE COVERED

When one is through with a camp-fire, the thing to do is to cover it thoroughly with dirt before leaving it.

ested in the perpetuation of the forests. Printed articles, fire warnings, illustrated posters, and other forms of publicity, are all helpful in this direction. Campers must be made to realize in the first place just what constitutes carelessness, and in the second place what a calamity carelessness is. For it is a calamity from their own point of view, as well as from that of the timberland owner and of the industries dependent on forests

A COSY CAMP FOR TWO
ON A PUBLIC CAMP-
GROUND ON THE SIS-
KIYOU NATIONAL
FOREST IN OREGON



Photograph by Tom Gill



THE LATEST MODEL IMPROVED
FIRE-PLACE, ON THE SAN ISA-
BEL FOREST IN COLORADO



HERE THE WHOLE
FAMILY ENJOYS THE
FREEDOM OF CAMP
LIFE IN A SUMMER
CAMP ON JENNINGS
CREEK, IN THE NATU-
RAL BRIDGE NATIONAL
FOREST, IN THE VIR-
GINIA HILLS



THE DAY'S FUN OVER, THESE CAMPERS AT SILVER LAKE, CALIFORNIA, ARE ENJOYING A QUIET
HOUR BEFORE TURNING IN FOR THE NIGHT

Recreation High Lights Here and There on the National Forests



Pennsylvania Department of Forests and Waters

CAMPING IN PENN'S WOODS

Not only the publicly owned lands in charge of the Federal Government, but thousands of acres of State Forests have been developed and are maintained for the recreation use of the people. Pennsylvania alone maintains 35 public camping grounds on the State Forests and each year more than 125,000 people enjoy the shade, shelter and comfort of these play places. Thousands of beautiful camp-sites dot the State Forests of New York—all these blessings an outgrowth of the vigilant application of fire protection in the woods.

and their products. There is no surer way for one to destroy the chief source of the enjoyment which a trip to the wilderness brings than by being careless with fire in the woods.

Education, however, no matter how effective, cannot be 100 per cent perfect and must be supplemented by some measure of control over the human fool who will persist in taking chances. Such control should include adequate penalties for leaving camp fires unextinguished and for carelessness with burning matches and smoking materials. I believe that in addition any one responsible for starting a forest fire, whether personally or through an agent or employee, should be required to pay the cost of fire fighting.

Camp fire permits are in my judgment an effective deterrent against carelessness and should be universally required. Arrangements should be made so that they could be procured by travelers without difficulty, and they should contain a clause providing for their suspension and revocation at any time. In addition to their moral effect, which is of great value, they would make it possible to keep

habitually careless persons from building fires by refusing them permits and to prevent entirely the building of camp fires during particularly dangerous periods. The preparation of public camp sites is an excellent way to prevent travelers from building fires promiscuously and in unsafe places. They should be thoroughly cleared of inflammable material, equipped with stone fireplaces, located near good spring water, and



New York State Conservation Commission

CAMPING IN THE ADIRONDACKS

made sufficiently attractive so that travelers will be not only willing but glad to use them. In fact if such sites are well distributed and conveniently placed, we can very properly insist on their use to the exclusion of other and more dangerous places.

The placing of authority in the hands of the Governors to prohibit hunting and fishing during periods of unusual drought constitutes another important control measure. In many states this authority already exists and has been used to good advantage.

Four years ago the Governor of Maine issued a proclamation suspending the open season for hunting until further notice, and forbidding any-

one to enter upon the wild lands of the State, carrying or having in his possession any fire arms or to shoot any wild animal or bird for the hunting of which there is no close season otherwise provided by law. An analysis of the fires which occurred at this time indicates that the proclamation was effective. Records for the Forestry District, for which alone accurate information is available, show for that year during the last four days of September and the first ten days of October there was a total of thirty-six fires. Only four of these occurred during the latter part of September before the opening of the hunting season. During the first three days of October there were sixteen fires, while on October 4, the day that the proclamation was issued, there were six, and on October 5 there were nine. Thereafter only one fire occurred, although the heavy rains which put a stop to the fire danger in those parts of the State where it was most serious did not come until three and in some places four days later. It is also worth noting that only three small fires occurred in Hancock and Washington counties, where the hunting season for big game does not open until October 15, as against thirty-three fires in other counties where the season opens on October 1.

The Governor of New Hampshire contemplated taking similar action at this time and had a proclamation already signed and ready for publication when rain put a stop to the fire danger. The Governor of Massachu-

setts on one occasion put an abrupt stop to hunting as a result of the sudden increase in the number of fires immediately following the opening of the hunting season. It is worth noting that action of this sort has nearly always met with the approval of the press and of the general public, including in most cases those personally inconvenienced by it. Perhaps still more important than

authority to prohibit hunting is authority to prohibit inland fishing, which is not now possessed by most Governors. Taking the situation year in and year out, spring in the Eastern states is nearly always a worse time for forest fires than fall. At that time the ground is covered with leaves shed the previous



FOREST FIRE

Red, hungry flames like starving wolves consume
The forest hosts with maniacal haste,
And leave but black, charred bones and barren waste
Where, erstwhile, virgin trees waved in their bloom.

The dryad-soul of each expiring tree
Goes up in clouds of smoke, until the skies
Are clad in robes of black, and seem to be
In mourning for each singing tree that dies.

—Ben Hill Tuttle

year, there is no new green vegetation to check a fire, and the days are steadily growing warmer instead of colder as in the fall. All these facts add to the fire danger.

As long as people will be careless with fire it is essential that provision be made during exceptionally dangerous periods for keeping out of the woods those not having real business there. The object of prohibiting hunting or fishing during such periods is not, as some apparently have thought, to prevent the discharge of firearms or the casting of a fishing line, but rather to keep out of the woods entirely those going there for recreation only. When the forests are like tinder, the fewer persons in them the safer they are.

One cannot dismiss the subject of fire protection without a word regarding fires set by other causes than campers, also affecting recreation. Railroads not burning oil are everywhere a prolific source of danger which must be guarded against by the use of adequate spark arresters and ash pans, the maintenance of clean rights-of-way, disposal of slash in adjacent woodlands, and where necessary the maintenance of railroad patrols. Promiscuous brush burning must be prevented preferably through a close season for such burning or through the strict enforcement of a permit system. The hazard created by slash following lumbering must be minimized as far as possible, although complete slash disposal may not always be practicable. This is of particular impor-

(Continued on page 551)

Twining Firs

Are the Lordly Firs Degenerating Into Mere Climbing Plants?

By C. C. PEMBERTON

ONE of the most obvious features in tree life is that under normal conditions the fir has always a single, straight, vertical main stem. In this respect it differs very much from the broadleaf type, such as oak and maple, where the stem is prone to separate into many limbs among which it is often difficult to choose the main stem.

As masts, spars, flag-staffs, telephone and telegraph poles, the stems of the fir trees are familiar objects and none would doubt their ability when growing to support a crown of foliage at the top of a stem which may be hundreds of feet in height. In the dense forests of the West one may wander in amazement through miles of straight wooden columns where the sunlight never reaches the forest floor and the tread of the feet is on a soft cushion of decayed wood, the re-

mains of previous centuries of growths. There are no birds to twitter and sing and profound silence reigns undisturbed, except when the winter gales sway and rock the giant stems till they

moan and creak and the blasts whistle and roar through the foliage of the towering tops. These tall, straight stems gladden the hearts of the foresters and timbermen who cruise the stand and calculate its "board-foot contents." When grown in the open, too, the fir has its same single straight vertical stem from which the branches radiate, giving the tree that beautiful pyramidal shape so greatly prized at Christmas time.

In all types of trees the stems, branches and roots grow in two ways or directions. They get longer and they also increase in girth. In the temperate zones this growth is periodic. The trees rest in winter and renew growth activity in the spring. Then the ends of the stems and branches begin to extend their length and the tips of the roots push out in all directions. This

growth activity is also shown in the girth of the tree. A new cylinder of wood is formed over that of the previous year and this new cylinder extends from the ends of the branches right down to the root tips. By this means the trees have wood of various ages, the youngest ring being that formed the previous year and the oldest that situated in the center of the stem.

The lumberman can



Striking Contrasts in Growth Form

This picture of Garry oak (*Quercus garryana*, Hooker) shows the strong contrast of the broadleaf growth type to that of the fir type. In the broadleaf there is seldom found the permanent single, vertical main stem, as in the fir. On the contrary, the original stem soon divides into many limbs and these into innumerable branches and branchlets, taking all different directions, while the figure to the right, of Douglas Fir (*Pseudotsuga taxifolia*) illustrates the dominant feature in the fir species as a single, vertical stem from which secondary side branches radiate. There is no division of the main stem into several stems, as is typical of broadleaf species.



cut the stem of the tree in different ways, so that the annual rings, rays and fibers of the wood show a variety of patterns, or "grains." When trees are grown so closely together in a forest that dense shade kills the side branches on the lower parts of the stems, these rings of wood are formed with an even fiber and the lumber is free from disturbance caused by the side branch and known as a "knot." It is true that sometimes the rings and fibers are disturbed by other things than side branches and the wood, as in the case of the "Bird's-eye" maple may become converted into a beautiful pattern. Again a spiral or twisted grain may occur from some unknown cause and the timber may then be rendered useless.

All trees must obtain carbon from the air as well as soil nutrition through the roots. Trees get the carbon from the air through the foliage which is exposed to light and when they grow in a dense forest the lower branches are killed by shade and the top canopy of branches which has its foliage exposed to light supplies the carbon. If any tree gets left behind in the race for light, then it must die. Some species are more tolerant of shade than others but none can exist for long without sufficient light. When trees have good soil-nutrient and plenty of moisture and at the same time adequate light for the foliage, they thrive and make new wood. There is a class of plants which differs very materially from the trees in that although they often possess long thin stems, the stems are not strong enough to raise the foliage and flowers up to any great height. This type of plant must of necessity resort to climbing tactics and the different species climb in a diversity of ways—by clinging roots, adhesive discs, tendrils, hooks

and thorns. Some accomplish their purpose by winding their stems in an upward direction around some vertical support. Darwin studied these twining plants and has recorded many interesting facts about their movements in growth. The twining plants commence with a normal, straight stem but in a short time they begin to curve and some turn to the right and others to the left, and still others again may change the direction of twine. Honeysuckle, hop, convolvulus, are well-known twiners and in the woods of the West the wild honeysuckle often utilizes the tall straight stems of the sapling fir trees for the purpose of support.

In the vicinity of Victoria, B. C., a strange twining propensity has recently been noted in the young growth stems of both Grand and Douglas fir. In some instances the twine is to the right and in other cases it is to the left. The twiner and its supporting tree are not always of the same species but when they are, the wood of the twiner and its support can become grafted together in much the same way as the stem of a tree often envelops the wood of the honeysuckle or other twiner, which becomes wound tightly around it. Trees of the fir species have such strong sturdy stems that the twining can not possibly be occasioned by lack of ability of the twiner to support its own weight, and so far it has been impos-

ble to account for such a radical change in the method of growth of the fir. Some of the instances of this extraordinary departure from normal growth of fir are shown in the illustrations. It would be interesting to learn whether this new phenomenon has been observed in the growth of trees elsewhere, than here in the forests of British Columbia.



One Grand Fir Twines About Another

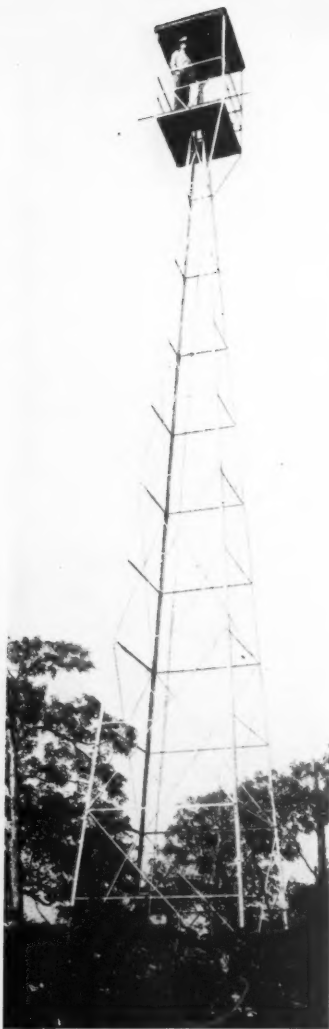
Here a Grand fir has executed a partial twining movement to the left around the stem of another big tree of the same species. These trees are in "The Gorge" Park at Victoria, British Columbia, and were in a dense forest before the paths for the park were cut out.



Remarkable Instances of Natural Phenomena in the Growth Habit of Fir Species

These are photographs of a remarkable habit that lately appeared in the fir trees of the districts surrounding Victoria, British Columbia. It consists of a twining movement, whereby the stem of one fir winds around that of another in the manner of an ordinary twiner. The first figure shows an interesting graft as well. A small Douglas fir grew in a vertical direction for a short distance and then twined sharply to the right about the stem of a large fir, pressing it so tightly that the graft occurred and the wood of the supporting tree has nearly covered up that of the twiner.

In the center a little Douglas fir twined itself just like a vine and ran up the trunk of a larger fir; and on the right, two young Douglas firs have twined loosely around each other toward the left. The trees seem to have a common base and may therefore be an instance of the wonderful way young pliable side branches of conifers on loss of the original vertical leader can change from a lateral direction to the vertical and replace the lost vertical leader.



THE LOOKOUT ON GUARD

Minute Men in Fire Protection

By S. H. MARSH

(Photographs by the United States Forest Service)

bility of protecting the Shenandoah National Forest from fire. Vast expanses of scrub oak are to be seen on every hand—sure sign of repeated burns. The fire-scarred butts of the larger trees told more plainly than words the story of an existence eked out precariously in the face of real adversities. Cut-over lands, potentially high in timber-growing value, had been converted into a barren waste and the timbered areas were denuded beyond description.

Most of the land was held in large tracts by non-residents who were not in a position to see the devastation of their property or seeing were powerless to prevent it.

The one bright spot in the picture was the farmer living near the foot of the mountains who had fences and buildings which were in constant danger from forest fires, or who depended on a small woodlot adjoining the larger timbered areas for his lumber and farm timber supply. To him the advent of the Forest Service meant relief from the periodic losses through forest fires.

A majority of the farmers here are descended from Scotch and German stock, hard working, law abiding, and with an inbred tendency to thriftiness and an aversion to waste in any form. The problem before the Forest Service, therefore, was simply to capitalize this attitude of mind, work up the organization and furnish the tools to make it effective.

This was done and it was from this class that a force of "minute men" was recruited. They have consistently pushed down the acreage of fire losses from 50 per cent a year in 1910, prior to Government ownership of the land now comprising the National Forest, to one-tenth of 1 per cent in the year 1922. This is a record forest officers in the Shenandoah point to with pride

ALMOST from time immemorial in parts of the South it has been the custom of a few individuals who used the mountains for a cattle range to burn them in the fall for early spring range and in the spring for late fall range. Nor have the devotees of huckleberry jam been without guilt. It was a commonly accepted theory that the best huckleberries were to be found in the "burnt woods," and why should one worry about the future timber supply when one's huckleberry jam for the winter was at stake.

Many fires were set also by railroads, particularly logging roads which were used in transporting logs and lumber out of the mountain.

The result of these repeated burnings was most discouraging to those of us who are charged with the responsi-



MAN IS CARELESS

Hence the "Minute Man"—a powerful factor in forest fire-fighting organizations. This patrolman, with his unique conveyance, is in an Appalachian National Forest.

and one they are glad to share with the "minute men" who have cooperated so ably.

Since the wardens or "minute men" are not paid unless actually engaged in fighting fires, it became necessary to discover who were sufficiently public spirited to take over a section of the National Forest and watch over it during the spring and fall fire seasons and undertake to keep it free from fire. One hundred and twenty such men were found and this number by no means exhausted the supply.

When a warden moves away or, as has happened on several occasions, resigns on account of age, little or no difficulty is found in getting another who is willing to take up the work and carry it along. Sometimes it is passed down from father to son.

The wardens are selected from many walks in life. Farmers predominate. One warden is an ex-member of the legislature; some are storekeepers; some lumbermen, and some stockmen.

The forest is divided roughly into small compartments, known as warden districts. The warden to be placed in charge of the district, with the assistance of the ranger, selects a crew of five to seven men, naming one as captain of the crew who is to have charge of the district in the absence of the warden.

There is placed with the warden a tool box which contains a standard set of tools sufficient to equip a crew of seven men. The box is sealed and is to be opened only in case of fire. After a fire the tools are checked up by the ranger, who replaces any broken or lost tools, resharpsens any dulled in the fray, makes the proper notation on the inspection record which is permanently attached to the inside of the lid, and reseals the box. Six seals serially numbered are placed in each box. This enables any forest officer to inspect the box at any



THE RED ENEMY



WEAPONS USED BY THE "MINUTE MEN"

These boxes are equipped with tools to fit out a crew of seven men. After each "fray" the tools are checked by the ranger, broken or lost ones replaced, and the box resealed in condition for use on call.

time without carrying seals with him, and the signing of the inspection record gives an automatic check on the broken seals. This plan has entirely eliminated the unofficial use of tools and of incomplete sets due to breakage and loss.

The warden system has produced surprisingly good results. The enlistment of 120 of the most substantial citizens together with their crews of some 700 men, has given an impetus to the Forest Service fire organization, the importance and far-reaching consequences of which are difficult to estimate.

The matter of securing sufficient men to control a fire has seldom given great concern. On the other hand, many more men have sometimes reported for fire fighting than could be used. A rather amusing incident occurred one summer on the Massanutten Division of the Forest.

On Easter Sunday some boys had been cook-

ing eggs in the mountains and let a fire escape. Ranger Crisman, in charge of the district, was notified by Warden Burke's wife that her husband had gone to the fire with his crew and was fighting but reinforcements were needed. Ranger Crisman left immediately, picking up Warden Figgins' crew en route, and had not returned at 10

that night, when another fire started on top Page Mountain near the corner of four warden districts. Each warden with his men made for the fire, with the result that a crew of sufficient numbers soon congregated to suppress a fire many times its size. An occurrence of this kind is rare, of course, but shows that the wardens are on their toes and are dependable, and that the system can generally be relied upon.

Of course, a warden can not be selected and equipped and then forgotten. It is only natural that he should



READY TO START FOR THE FIRE LINE

Fully equipped for the fray, this forest officer and his crew of Minute Men are waiting the call to go.

want to come occasionally in contact with some of the officers who are directing the organization. The personal contact is stressed and this is supplemented with letters which are sent out three times during each fire season, or six times a year, to Wardens, members of their crews, and others whom it is felt are or should be interested in fire

prevention. It has been necessary to maintain a lookout system, both because there are certain areas entirely devoid of human habitation and also because there are a few sections where there is a dearth of suitable warden material. On the other hand, certain parts of the Forest are solely under observation and protection of the warden. Although the time is not yet ripe to depend solely upon the wardens and abandon the lookout system, it should ultimately be possible to abandon all the lookout stations except those covering uninhabited areas.





DISPATCHES just received from Shirley W. Allen, Forester of the American Forestry Association, emphasize the exceedingly hazardous fire conditions in the far West. Writing from Portland, Oregon, Mr. Allen says:

"Not since 1910 has the Pacific coast been faced with more dangerous fire conditions than the present season has brought, and it is generally agreed that without splendid advances in fire protection methods, losses would exceed those of the worst years in the past.

"A toll of two lives, one entire community and an astounding amount of equipment are grim evidence of what carelessness and lightning can do against the efforts of fire fighters.

"Two things stand out, however, from which some encouragement may be drawn. The first is a comparatively small loss of merchantable timber for the total area burned and second the large proportion of lightning fires as against those caused by human carelessness.

"The greatest loss to merchantable timber has occurred on the National Forests while losses of equipment have mounted on private land.

"During July there were 184 fires on the National Forests of Washington and Oregon, 27 of which reached a greater area than 10 acres. Up until the last of July about 70,000 acres of National Forest land had burned over and fire had swept 30,000 acres of

The Forest Fire Situation

nearby private land. From a total of 999 fires in Oregon and Washington for the first seven months of the year less than half were man-caused. Cost of fighting all fires had reached \$170,000.

"A bad series of electrical storms beginning July 12 was responsible for many fires along the Canadian border and on August 2, one large fire was reported to have crossed the Asnola River on a log jam into Canada. At the same time a Canadian fire on the Pesayton River with a 10-mile front was reported headed south three miles from the boundary.

"The most difficult situations have been on the Chelan and Colville National Forests in Washington and on the Siskiyou and Crater National Forests in Oregon.

"On August 5, large fires were reported by the Missoula headquarters on the Pend Oreille and Coeur d'Alene National Forests in Idaho, sweeping forward with high winds and uncontrolled. On the same date Supervisor J. C. Whitham of the Kaniksu National Forest in Northeastern Washington, reported the worst situation in 25 years.

"The situation in California, while serious since the middle of July, was quieter on August 1, save for the Klamath National Forest in the extreme north end of the State, where bad brush fires had destroyed five ranch properties and were threatening large bodies of green timber.

"Almost 3,000,000 acres of National Forest land on the Pacific Coast is closed to use this season and this area may be increased if low humidity conditions continue."

According to the United States Forest Service, fire losses on the National Forests from July 1 to July 20, 1926, as gauged by the expenditures from the fire fighting fund in the work of suppression, were nearly three times as great as in the corresponding period of 1925 and one-third greater than in the bad fire season of 1924. The expenditures reported for this period in the three years were \$337,616 in 1926, \$106,133 in 1925, and \$288,127 in 1924.

The destruction this year has been greatest in the Northern District (chiefly Montana and Northern Idaho) and the situation there still remains critical. The Kaniksu and Pend Oreille Forests suffered most, al-

though the situation was very serious on the Coeur d'Alene, Kootenai, Blackfeet and Clearwater. The number of fire fighters called for by the Supervisors could not be rounded up from civilian sources, and troops from Fort Missoula had been secured to assist in fighting a large fire on the Blackfeet, and from Fort George Wright at Spokane to assist in fighting the fires on the Kaniksu. Late reports indicate that the weather conditions are still unfavorable on account of high winds and lightning storms. The situation on the Kaniksu was reported grave, 36 large fires burning and 65,000 acres burned over. On the Blackfeet Forest the Hay Creek fire spread badly, covering 10,000 acres on the Forest and a large area in Glacier National Park; on the

Olney Ranger district of this forest lightning fires of 4,000 acres were reported. Bad fires continued to burn on the Coeur d'Alene and Clearwater, one fire on the latter Forest reaching 4,500 acres. At last accounts 2,500 men were fighting the fires in this District. In response to a telegraphic request from the District Forester that six men from other Districts who are competent to handle fire crews report at Spokane as soon as possible, the Washington office arranged with the District Foresters at Denver and Ogden to furnish three experienced Forest officers from each District, and information is received that the men are on their way.

Telegraphic advices indicate that worse atmospheric conditions have never been known.



EXHIBIT OF THE AMERICAN FORESTRY ASSOCIATION AT THE PALACE OF EDUCATION, SESQUICENTENNIAL EXPOSITION, PHILADELPHIA

Men, Trees and an Idea

The Genesis of a Great Fire Protective Plan

By E. T. ALLEN

IN 1906 a handful of Idaho lumbermen, in a state then without vestige of forestry organization and remote from centers of forestry propaganda, took a step which probably has exerted more influence on forestry in this country than any other except the establishment of a national forest administration. Many agencies and influences came later to contribute in full measure, in ways not then planned or foreseen. But it can hardly be denied that after repeated failure of other principles, it is the principle of private, state and federal cooperation that has proved sufficiently in harmony with American thought to break down past inhibitions and clear the way for real progress now so everywhere evident. And whether or not it might have evolved otherwise in time, its specific genesis was undeniably the Idaho experiment in cooperative protection under circumstances favorable to its expansion.

It is generally believed that to make forestry discussion interesting, instead of forbiddingly technical, it must deal much with living men and living trees. But how about a living idea, if it has that appeal in it

which has spread to most of the United States and Canada, supplanting the class suspicions of decades, welding private and public agencies into consistent machinery through which they jointly share and direct, for the common good, not only the expenditure of millions but also the development of method, policy and legislation; until out of chaos and conflict has arisen a dependable national spirit to meet all forestry problems through constructive cooperation?



THE INSPIRATION OF THE "IDEA"

To protect such property from recurring, devastating fire was the basic thought in the organization of the great cooperative forest protection system in the West. These remarkable trees are from 12 to 18 feet in diameter and run to 400 feet in height—an unusually heavy stand of timber, carrying nearly half a million feet of lumber to the acre.

In 1906 the National Forests were under systematic protection, but this was aloof and crude in the light of modern methods. Few states went beyond authorizing fire wardens to be employed in emergency. Private

owners were just beginning to progress from the emergency fire-fighting stage to the individual employment of patrolmen to prevent fires. Even in the west, where all these agencies intermingled, their efforts paralleled independently. There was virtually no cooperation between or within them; certainly no picturing of the problem presented in entirety by any region, indicating the joint responsibilities involved. With this true of the obviously joint problem of protection, even when conducted by neighboring interests, how much more hopeless was it elsewhere, and how remote intelligent solution of other forestry problems having greater possibilities of misunderstanding and conflict?

The Idaho idea, in original form, was simplicity itself; it held merely that intermingled private ownerships could gain efficiency and economy by substituting for individual protection a trained organization supported by pro-rata acreage assessment. Four such associations were formed. A logical next step was legislation enabling the state to join with its forested grant lands on a similar basis. Immediately it also proved apparent that both public and forest owners had greater confidence in, and more readily accepted the authority of, a movement combining business competence and state authority than if either alone were in command.

Washington followed with an association covering the western part of the state. In 1909 these five pioneer organizations formed the Western Forestry and Conservation Association to extend the movement through the five Pacific Coast states and afford clearing-house facilities for associations, state forestry departments and the United States Forest Service. In this triple alliance all agencies were on equal footing at meetings and on committees.

At that time, such a movement could hardly have started anywhere else, for nowhere else existed the same neighboring of private, state and federal forest organizations. As it was, the ball thus started rolling gathered size and momentum, indicating that through accident and favorable circumstances a means had been discovered for applying to America's difficult forest problems the inherent genius of Anglo-Saxon peoples for accomplishing order through pride in proprietary constructiveness, rather than through law and compulsion. To appeal to this became a definite aim of the movement.

The five pioneer associations of the Pacific Coast grew to thirty, extending from California to Montana, in every case cooperating closely with state and government forest departments. In most, men and money were pooled under one management. Legislation to facilitate this was promoted by the three agencies working together. To increase and equalize private effort, compulsory patrol laws were passed in the several states. The federal Weeks law funds, originally intended for another and temporary pur-

pose, only in states without National Forests, were added to the cooperative system in Oregon and Washington with resultant stimulation all round that led in all states to continued annual appropriation for this purpose. Here also originated the doctrine of setting up for each state a specific ideal of joint protection, and its cost; so as to give each beneficiary element a clear aim of responsibility, rather than mere subsidy dollar-matching on a basis of funds accidentally available.

Such clarification of problems naturally resulted from having in each coast state separately, and for the five jointly through the central alliance, practically every detail of forest protection settled by conference of all three agencies. These agencies were represented by accredited administratives and experts, and by joint committees working the year round. In three or four years, as early as 1912 and 1913, these conferences were being held from San Francisco to Victoria, B. C., and covered such subjects as safe-guarding logging methods, slash disposal, trail and telephone building, possible use of wireless and airplanes, fire weather forecasts, report and payroll standardization, lookout and signal systems, publicity devices, forest legislation, and division of responsibility. British Columbia also joined the family officially, participating in all that was of joint interest. Canada East was too distant to do exactly this but, as in New England and elsewhere, timber owners in Quebec borrowed the western association plan and cooperatively with official agencies, placed millions of acres under protection.

One of the first Pacific Coast steps was development of modern publicity devices for educating the public in fire prevention, pooling the cost between agencies. Before this, none in America, if anywhere, had gone much beyond desultory lecturing, writing, and baldly proclaiming the laws' penalties. Similarly, fire-prevention technique and equipment were developed by joint committees and covered by field manuals used by all forces. Pooled orders for equipment effected both standardization and manufacturers' discounts. Fire weather forecasting service and humidity studies were perfected through cooperation with Canadian and American meteorological officials. Airplane assistance by the War Department was similarly made possible by cooperative agreement.

It was a natural consequence of this spirit and machinery that both should extend from protection, the first nucleus, to all forestry subjects, silvicultural and economic. Annual programs and standing committees came to deal with these subjects on a similar basis. The forest schools sat in. A joint forest policy committee pledged association, state and federal forest agencies to promote independently no steps that involved the others without discussion and an attempt at harmonious policy. Lumbermen's organizations along other lines, such as manufacturers' associations came to depend on this system as adequate without the necessity

for worry or interference. So while individual or group minorities might exist in any camp, there became available, in either state or national affairs, the correlated views and dependable responses of competent majorities representing both official and private interests. These naturally enough, were not without differences, but differences were minimized and divested of misunderstanding and non-confidence.

Meanwhile the idea worked in the field as well as in council. In these Pacific Coast states are about 103,585,000 acres of forest land—half the nation's timber supply. The same natural advantages that

ance is mostly federal public domain which these private agencies have to protect, since the Government does not do so in order to perfect a joint system covering all timber and reforesting land. This is financed about 71 to 74 per cent by lumbermen, 19 per cent by the states, and 7 to 10 per cent by Government co-operation. The range indicated is seasonal and may be even greater, lumbermen having to increase the fund in bad years although public appropriations are rather inflexible. Private expenditure is from \$1,000,000 to \$2,000,000 annually. For the merchantable timber, this system is nearly adequate with losses fractional of one



THE PROOF OF THE PUDDING

This second-growth redwood is typical of the new forest that will come on logged-over lands as a result of systematic, cooperative fire protection, and is the happy result of the system which germinated in 1906 and came into real, effective operation in 1909.

grew these magnificent forests are still unimpaired and unless thwarted, will always make for continuous production. Four-fifths of this area is still timbered. Of the cut or burned remainder, three to four-fifths are in some stage of restocking. Of the entire forest land area, 30 per cent is privately-owned and 2½ per cent state-owned, so these two ownerships other than federal comprise 33,781,000 acres, or practically a third of the total.

About 29,000,000 acres of this, or virtually all that is not owned by farmers, is not only under systematic protection but also contributes toward extending the area to about 43,000,000 acres. The 9,000,000 acre bal-

ance is mostly federal public domain which these private agencies have to protect, since the Government does not do so in order to perfect a joint system covering all timber and reforesting land. This is financed about 71 to 74 per cent by lumbermen, 19 per cent by the states, and 7 to 10 per cent by Government co-operation. The range indicated is seasonal and may be even greater, lumbermen having to increase the fund in bad years although public appropriations are rather inflexible. Private expenditure is from \$1,000,000 to \$2,000,000 annually. For the merchantable timber, this system is nearly adequate with losses fractional of one

In addition to this organization for protecting exist-

ing and future forest resources, the same cooperative idea extends to technical and economic affairs. The Western Forestry and Conservation Association maintains a research department to aid at actual cost progressive owners desiring to investigate forestry possibilities. It has already examined nearly a million acres of land and contributed much to general forestry knowledge by studies of reforestation, utilizing defective timber, slash disposal, etc. Such work also goes forward with full cooperative relations between association enterprise and that of the Forest Service, states, forest schools and British Columbia research authorities. Both material and opinions are systematically interchanged.

This successful operation of "the Pacific Coast system" has received increasing recognition throughout the country as a possible solution to the difficulty of uniting forestry interests in a common cause. Advocated by the Forest Service, it was approved by the Senate committee on reforestation and in the form of the Clarke - McNary law became our national policy after many suggested policies failed in Congress. Still new

and imperfectly understood, and with feeble backing by appropriation, this has greatly stimulated progress already. But outside of statute, the spread of the principle is everywhere apparent. That the interests concerned, as majorities, are no longer apart, but in close, constructive relation, is thankfully conceded by all except those who are no longer in active touch with American forestry progress and so prefer to deny it. By no means have the problems been solved and the obstacles removed, but the will and genius to do this have been marshaled at last, and are at work.

The proof of an experiment is its permanence as a policy. After twenty years on the Pacific Coast, with the original protection contract succeeded by tremendously more numerous and difficult problems, with far greater inherent differences of interest, the principle is being applied more enthusiastically and successfully every year. So the story is no longer of an idea, but of men and trees after all.

Lumbermen are taking stock of their lands and finding that trees have grown, as a result of the system, and that cutover lands are no longer only cutover lands but new forests to be studied and guarded. Conferences on today's crop problems have an amusing way of drifting to those of the next crop. Hard-boiled woods bosses proudly exhibit the second-growth they have seen follow their logging.

Old theories of seed-supply and reforestation are falling before wider study and joint analysis; better methods and sounder predictions are taking their place. Old controversies over brush-piling and the like are proving absurdly devoted to blanket rules when the real answer lies in



Courtesy "Simonds Guide for Millmen"

The Burning Forest

By R. W. FARRELLY

The azure vault assumes a sombre haze,
As from the brush the driven ashes vie
With drifting smoke to pall the summer sky,
On which the homeless and the helpless gaze.
The wind of many apprehensive days,
Unchanging in direction, hurries by,
The craving of the fiend to satisfy
In kindling here and there a fiercer blaze.

Relentless tongues of flame consume and char
To death the giant pines, and set at naught
Expedients the burning to restrain.
The landscape changing to a blackened scar,
The woods beyond are in the horror caught,
While crouching Terror begs its god for rain.

experiments to fit methods to varying actual conditions. Forestry is being recognized as the business it is everywhere but in ink, words or creed; governed by things as they are, not as they should be; by fact, not by faith; and the forester is learning to be as proud of business ideals as of professional ideals. Meanwhile, with a continuing balanced contribution by private, state and federal agencies of their several peculiar competences; the original protective organization is becoming better correlated, more scientific, more efficient. The result is both trees and men.

"Ol' Tol'able" and the Firebug

By H. E. CLEPPER

THE real truth of the matter was that Ezra Whitt—Ol' Tol'able, the people of Meadeville called him—was not as young as he used to be. Not that you would ever know it from looking at him, for he was as erect and hale and hearty as any man twenty years younger, but the fact remained he was getting along in life. Nevertheless he applied for the position of fire warden for Meade Township, and the forestry people down in Harrisburg appointed him.

It was rather a red-letter day for Ezra when he received his commission; and when he pinned the little round badge on his coat, his shoulders seemed to grow just a trifle straighter and his head just a trifle higher. Of course, it was natural there should have been a bit of chaffing from the men who were toasting their shins around the chuck stove in the rear of the store, but Ol' Tol'able parried their remarks with good humor. Although he affected to take it all lightly, his pride in the wardenship was ill concealed, and beneath his bantering attitude it was evident that he intended to fulfill his duties to the letter.

Ezra was just about to leave the store box wits when Joe Hutter came stamping into the store, making a great racket with his high topped, hobnailed boots and booming voice.

He was a great swaggering hulk of a man and was usually tolerated even though he wasn't liked. Joe came elbowing his way up to the fire and espied Ezra's new badge.

"Hello! What's this?" Joe cried in mock surprise. "The new town constable?" Then after peering a little closer, and glancing around to see whether the boys were getting the benefit of his humor, he continued: "No, 'tain't neither. Its solid silver and proclaims to all and sundry that our ven'erable feller citizen Ezra Whitt, better known as Ol' Tol'able, is a forest fire warden, b' gosh."

With that he drew out a voluminous red bandanna and made a great pretense of shining up the little bright shield on Ezra's lapel.

"Why, Ezra," he exclaimed, "I didn't know the State appointed old men for such jobs."

A mean cut, as he had intended it to be, for even though Ezra was still an active man he was growing sensitive about his age.

"How do you calculate you're going to like the job?" Joe asked, trying to get a rise out of him.

"Tol'able, Joe, tol'able," Ezra replied mildly, giving the characteristic answer for which he gets his nickname.

Evidently Joe felt that he had made his point, for he burst into a great shout of laughter, and Ezra went out with the guffaws ringing in his ears.

Now the people in and around Meadeville are very careful in their attitude towards other's property, and

so Ol' Tol'able wasn't troubled with fires in the township. Then, too, having for fire warden a man like Ezra, whom everybody knew and respected, helped in getting the local public in sympathy with the State's fight for forest protection. During spare time Ezra could often be seen tramping through the woods, tacking up signs, "Pre-

vent Forest Fires—It Pays." One November afternoon shortly before deer season opened Ezra was patrolling along Upper Mingo Creek, when he heard the sharp crack of a rifle. He hurried through the woods and suddenly beneath the dark cover of a spruce tree came upon a newly killed doe lying in a bed of blood-stained leaves. It was a simple matter for him, an experienced trapper and woodsman, to follow the fresh tracks of the illegal hunter, and in a little time he overtook Joe Hutter.

A forest fire warden is a game warden, *ex officio*, as everybody knows; and so Ezra reported the killing. The



"Hello! What's this?" Joe cried in mock surprise.

upshot of the matter was that Joe was hauled up before Sam Decker, the Justice of the Peace, and fined to the limit.

Legally Joe's apprehension fell squarely within the definition of Ezra's duty, but there were many people who thought the old man's action undiplomatic in view of Joe's unsavory reputation. After the trial Joe met Ol' Tol'able before the store.

"What the hell is it any of your business if I did shoot a doe?" Joe asked in an ugly temper.

"Why, that's what I'm commissioned for," Ezra replied soothingly.

"You ain't a game warden; you're a fire warden, an' a dam' poor excuse of one at that."

"All right, Joe," Ezra retorted patiently, "you have no one to blame but yourself." And with that he turned his back.

Joe swore a while longer, and even threatened to do the old man personal violence, but, finally calmed down when Ol' Tol'able stood up to him.

Those who had heard Joe's threats could guess with fair accuracy what course he would take to get even. Sure enough! In a couple of days a raring, tearing forest fire broke out over on Pine Mountain. Fortunately Ezra had loyal cooperation from the local people, and after a whole night and half a day of fighting they put it out.

It did not require exceptional mentality on any one's part to put two and two together, and lay the fire to Joe Hutter. That is, except for one thing. This was the incontrovertible fact that the fire had not started until nearly noon; and as Joe had been loafing around the village store since early in the morning, he had a perfect alibi. He might have been eliminated entirely had he not been about half full of moonshine and made some drunken remarks about Ol' Tol'able's ability as a fire fighter.

"He'll singe his darned whiskers off," Joe jeered in maudlin glee. "If he don't dry up and blow away."

But this was only the beginning of Ezra's troubles. Four more fires broke out within the next week and each was so located that it took the hardest kind of fighting to conquer. Ol' Tol'able kept steadily on the job and had no difficulty getting men to assist him. It was the mystery of what started them that nearly drove him frantic. For, as Ezra bitterly complained to Mary, his daughter, it was one thing to guess the cause of a fire, but an entirely different matter to get evidence to prove it. Of clues he had not a shred. When the report of each fire had come in, Joe Hutter was invariably to be found, usually making himself purposely conspicuous, in the village. Certainly there was nothing to indicate that he had deliberately set the fires, but on the other hand, Ezra argued, it didn't seem possible that any one else in the neighborhood would be mean enough to do it.

To Ezra the situation was rapidly becoming intolerable. He began to feel that the numerous destructive

fires that had occurred lately were the result of his own personal inefficiency.

"If I could only catch the person who is doing it," he said one night to Mary, "I believe that would stop them for good and all."

"Well, if that's all that's bothering you, I'll catch him for you myself."

"I'd like to know how you would do it."

"Oh, easily," she asserted with such delightful cocksureness that Ezra was forced to laugh despite his trouble. "Easily, Daddy. You just run along to bed—it's 10 o'clock—and let me think this out."

Her father gone, Mary drew a chair before the open fire, threw a fragrant birch log on the embers, and seriously considered the problem. There were several acknowledged facts which bore directly on the case, and these she checked off on her fingers. Why should any one set fires, she asked herself? Surely, it did no one good. Revenge? Yes. All right. That's point number one. Now, who were her father's enemies? He had only one. Joe Hutter. All right for that. Point number two. Well, how did Joe set the fires? Here she ran against a snag. Was she even sure that he had set them? How could he have been two places at once? When each fire had started Joe was in the village; that was indisputable. But suppose he—? The force of the idea came so quickly that she rose unconsciously and went to the door, as if she needed to consider this in the open where her thoughts would be unconfined even by walls.

It was a beautiful evening, but the sky portended rain. Well, she reflected, that was just as well; let it pour. She would then have another day to think about it. With her face happily illuminated by the light of her idea, she smiled, drew several deep breaths of the invigorating, forest scented air, and went in.

As she had surmised, the following morning there came a light shower which, however, ceased almost as quickly as it had begun. But no fires were reported. When evening came she sat opposite her father.

"Daddy, I've been thinking about this fire matter and I believe we have it solved."

"What's that?" Ezra ejaculated in sudden surprise.

"That is, I mean that it can be solved. Now if you will promise to do just as I say, and no more, I'll explain."

Ol' Tol'able obediently said the word, and Mary unfolded her scheme.

"Now, it's this way. First of all you will have to spend the night out. You must go down to Joe Hutter's place on Thirsty Creek and climb the bluff behind the barn, when you will be able to see any one leaving the house. It will be dark, but a person will be plainly visible crossing the clearing."

"Yes, but—"

"All right. Now, if Joe leaves the house you are to follow him. That will be easy for you because you can go through the woods quieter than a fox. Joe will prob-

ably stop at a certain place, transact his business, and then leave. That will be your opportunity. After Joe has gone you must go to the place where he was, and there, I think, you will find enough evidence to prove him a firebug."

"Where will he go, and what will he do?" Ezra asked in genuine amazement.

"That is just what I don't know and what you are to find out. But, above all, don't try to stop Joe in whatever he does, because if you do you'll not get any evidence."

Completely mystified, he gave the required assurance the second time, and reached for his hat and coat behind the door.

It was about an hour after dawn when Ezra returned. Mary was sitting before the fire. After he had warmed himself and had eaten, she asked for results.

"Nothing," he said laconically and in obvious discouragement.

"Nothing happened? Why, tell me."

"Well, I did just as you said, I watched from the bluff until about 3 o'clock in the morning, when I noticed a light in the house. It only lasted a few minutes and then went out. Presently I saw Joe cross the clearing and I followed. He headed up the creek, keeping well in the brush, and circled around until he took the trail crossing Beech Knob. He hiked along cautious like for over an hour, until he struck the big timber at Hemlock Hollow. Here he halted and listened, and then climbed an oak knoll on the other side of the ravine. He stopped again and looked at the sky for the longest time, and, then without doing another thing, he turned about and went home."

"Went home?"

"Yep."

"And, is that all?"

"Every bit. I went up to where he had stood on the knoll, but there wasn't anything there, and since he hadn't done anything, like you said he would, I came home, too."

"Poor Daddy; I'm so sorry."

"Well, it ain't your fault, Mary, I just sort of calculated that I had him, and then he up and did noth-

ing. What beats me, though, is how you knew he would do that much."

"Never mind that now. I'll have to think some more." She watched him as he dispiritedly crossed the room. "I'm so sorry, Daddy," she repeated.

While her father slept she thought of what might have caused the scheme to fail. Then like a flash it came to her for, chancing to glance through the window, she saw the first scattered drops of another shower on the pane. The rain stopped before noon, and by sunset the leaves in the woods at the rear of the house had been dried effectually by the brisk autumnal wind.

This decided her. She waited through the short evening with well concealed impatience, and immediately retired when her father declared it bed time. Shortly after midnight she stole down the stairs, with her shoes

in her hand, and, drawing on a heavy sweater, quietly opened the kitchen door and hurried through the gloom of the moonless night in the direction of Thirsty Creek, where Joe Hutter's cabin lay squat and black in the clearing. Meanwhile, in his room under the eaves, Ezra slept serene and all unconscious of his daughter's departure.

Ol' Tol'able rose early, as was his custom, and puttered around the yard splitting kindling. Then wondering why Mary had not as yet risen, he called to her. Upon receiving no answer, he went to her room and found that she

had gone. He had gone to the door for the tenth time to look for her when she came up the road in strong swinging strides accompanied by Sam Decker, Justice of the Peace.

"Good morning, Daddy," Mary called smilingly, her cheeks flushed with the brisk exercise and her chestnut hair blowing in the breeze. Ezra placed a chair for Sam, and Mary set to work hastily to brew coffee.

"Well, Daddy, we've caught the firebug," she said. "What?"

"It's a fact, Ezra," Sam acknowledged. "He's caught. Evidence complete. I'm holding him in default of bail."

"Who?" Ezra asked completely bewildered.

"Why, Joe Hutter. But Mary did it. She came down to the house this morning, routed me out of bed, and made affidavit to having witnessed Joe Hutter set a



"I could see just the faintest flicker of light for a moment, then all was dark."

IRWIN
A.C.S.

Those "Harmless" Surface Fires

By WALTER J. PERRY

FIRE is and always has been the great arch enemy of our forests. Other enemies, such as tree diseases, parasites, insects and drought each take their toll—not a small one in the aggregate—but Mother Nature patiently makes good these losses. She salvages the dead timber and converts it in her laboratory into a moisture-retaining mulch and plant food for another generation of trees, and growth balances loss in the long run. Man may cut and slash with little or no care for the future and yet perhaps live to see a new forest springing up from chance left tree seedlings here and there or from the occasional hidden seeds carried by winds and birds. But always and in every case only if fire is kept out.

Under proper management any forest can be utilized without destroying it. Mature timber, which in the course of nature would succumb to its natural enemies, is harvested and the forest not only perpetuates itself naturally but actually produces more and better timber over a period of years. But here again *only if fire is kept out.*

For your forest fire when it runs through the slash that follows recent lumbering leaves only barren waste. Not only does it destroy the small timber left from cutting, but, often consumes vegetable portions of the soil, down to the pure mineral soil. Following this comes erosion and the destructive rush of unchecked waters. When another forest will cover such an area can only be thought of in centuries. These are the kind of fires one reads about in the papers; the sensational kind; the kind that do great, obvious, immediate and measurable damage.

There is another not so sensational. Its cost does

not touch us but will certainly fall on our grandchildren and their children's children. This is the light surface fire. The kind which people now-a-days as a matter of course go out and extinguish, but which a

few years ago they just let burn until they went out. People said, "these fires do not kill the good and big timber anyway, and they make the grass better." They were substantially correct in both statements. But were absolutely wrong in thinking that the present stand of "good and big timber" would last forever without being rejuvenated by young stock coming in to replace the old trees dying from natural causes. These ground fires *do* kill the young trees, and beetles, fungi, and other parasites, *do* continue to kill the old trees. So, where these seemingly harmless fires occur frequently, the final result is a dying and decadent forest, unable to renew itself.

The natural process of regeneration in our southwest pine forests is this: Pine commences to bear seed when a good pole size—say 50 years old—and continues to do so as long as it is a living tree. Some produce seed every two or three years, with an occasional general crop of great abundance. Many of these seed find the soil and germinate. Myriads of young trees die from drought the first year unless it happens to be an abnormally wet one. Many others survive, and if the stand is already full, they linger along for five or six

years and finally die from lack of light and soil moisture—unable to compete in the struggle with older tree roots already in possession of the soil. When a tree is felled, or dies from any cause, these seedlings are able to secure necessary light and moisture. They rap-



THIS GREAT OLD WESTERN PINE IS A MUCH-SCARRED VETERAN OF CONSTANT WAR WITH SURFACE FIRE BUT DESPITE ITS MANY INJURIES IS STILL A PROLIFIC SEED BEARER

idly spring up and take possession of the opening. Thus the virgin stand tends naturally to be in groups of different ages.

So it may be accepted as an infallible sign of decadence when an even-aged virgin stand of old western yellow pine is seen. Such a forest needs protection and needs it badly. It must be protected primarily from fire,

and secondly from intense grazing, especially from sheep and goats which run a close second to fire in destructiveness to young pine seedlings.

Here is a tale of what repeated surface fires have done, as told by an old western yellow pine. This ancient veteran is one of a very thin and scattered stand of mature and over-mature trees and shows a fire scar running nearly half way around its base and extending up the trunk some 8 feet. The site upon which it grows is ideal for the species—the land could easily carry four times as much timber, of far better quality. Well, why doesn't it? The answer is plainly recorded in the stump of this old tree; bound in gnarl-



THE ARGUMENT THAT SURFACE FIRES DO NOT INJURE BIG TIMBER IS BELIED BY THIS PICTURE. NOTE THE UNHEALTHY CONDITION OF THE TREES FOLLOWING SURFACE FIRES IN SLASH FOLLOWING LUMBERING. SUCH CONDITIONS INVITE INSECT ATTACK

ed wood and embalmed in pitch it is all written clearly. Let's read it.

The old fellow is 345 years old. He started life in 1578. In 1577 there had been a heavy crop of pine seed from which resulted a thick stand of young trees the following spring. So crowded were they that this



THE "HARMLESSNESS" OF SURFACE FIRES IS NO LONGER OPEN TO DISPUTE. THEY DAMAGE THE POTENTIAL FOREST BY THE DESTRUCTION OF GROUND COVER AND KILL THE YOUNG TREES WHICH HAVE ALREADY GOTTEN A GOOD START BUT LACK STRENGTH TO RESIST THE INTENSE HEAT

tree in 1629, then 51 years old, had only attained a diameter of $4\frac{1}{4}$ inches. In that year came a fire which burned one-fourth of the way around the base but at the same time killed some of the tree's competitors. After another 34 years, in 1663, the old wound had healed entirely but the pine itself was still too much crowded by its fellows and had reached only a 7-inch diameter. Then occurred another fire which burned it half-way around, but relieved it of all competitors save two. This scar the tree was never able entirely to heal, for while it made fair growth, another fire in 1682 reopened the wound. Aided by deep soil and abundant moisture it was rapidly closing this with new tissue when yet another fire came along in 1705. At this time a dead log was lying against this tree and its two companions and all three were badly burned. This injury was the most serious it ever received. But now practically free from competition because of this fire, rapid growth was resumed. This was checked 13 years later and all the new work undone by a fire in 1718. Then followed a period of 30 years rest, no fire occurring until 1748 when the scar was much enlarged in all directions. Luckily the tree had filled with pitch and insect borers had not attacked it, otherwise the fire would have followed their sawdust-packed holes and burned the tree to a shell. As it was, the scarred face would merely blaze fiercely for a while until the heat drew out enough pitch to drown the fire. But around the edges of the scar the new wood was in-

variably killed by each fire. In 1758 a light burn occurred, followed by a more serious one 38 years later. At this time, although it had reached the age of 218 years, the tree was putting on thick rings of growth in its uninjured side and rapidly laying wood over the edges of the great burn. Then repeated fires made futile this healing work. They came in 1810, 1817, 1824, 1839, 1854 and 1874. Since this time—49 years—the tree records no additional burn, probably because there has not been sufficient material on the ground about it to carry fire. When cut in 1923 the tree was sound except for this scar, and was in seed-bearing condition.

Of course, there may have been more than these 16 known fires. Quite possibly there were some which left no record on this particular tree. But even if there were not, the longest single uninterrupted period for restocking had been 38 years. The net result is one solitary 60-year-old offspring from this group of three 350-year-old trees, and even this is so badly damaged by porcupines as to be valuable only for seed-bearing.

Doubtless this one tree has started tens of thousands of seedlings in its time. Does any question

remain as to why they are not in evidence now? Doesn't it all prove rather conclusively that while light fires do not kill large timber, they *do* prevent reproduction? There appears to be no great odds one way or the other on the final result whether an existing forest is destroyed, or a potential forest prevented, and the original stand merely allowed to die. The end of both is desolation.



THE SCAR THIS VETERAN BEARS IS NEARLY 8 FEET HIGH AND RUNS ALMOST HALF WAY ROUND THE TREE. READ THE STORY AND LEARN HOW IT HAS RECORDED ITS OWN TRAGIC STRUGGLE FOR SURVIVAL



How Maryland Cares for Her Roadside Trees

By F. W. BESLEY
State Forester of Maryland

THE good roads movement, starting in Maryland about twenty years ago, created the Maryland roadside tree problem. There were many trees along the roadside, not by design, but simply because they did not interfere with anything or anybody in particular.

When the road building program, involving the expenditure of millions of dollars, was begun, rapid changes followed. The road builder had but one idea, and that was to put the road through, and anything that offered the least interference must give way. It was inevitable that many thousands of trees along the highway should be destroyed or badly damaged, often needlessly, in road building. In those early days there were many tree lovers who made protest, but in the feverish excitement of getting good roads, their protests were generally overruled by popular clamor to sacrifice everything that impeded road development. The road builder argued that this strip of land, called the right-of-way, was dedicated to road purposes, and that there could be no valid objection to using any or all parts of it for road building. This argument was usually conclusive, and unless the right-of-way was very wide, comparatively few trees were left within its limits.

Then there were telephone, telegraph, and electric light and power companies—public service corporations with acquired rights—their wires extending along practically all of the highways, and in most cases, passing over or through the trees. Naturally, these companies were interested in eliminating the trees as serious obstacles to the maintenance of their lines. It had become common

practice to hack the tops out of the trees or otherwise mutilate them to give clearance to the wires, or to cut them down entirely where it could be done with impunity. The wonder is that any trees were left. The only one to protest with any effectiveness was the abutting landowner, since in most cases he owned a fee in the land and had a legal claim to the trees. But, except in villages and thickly settled places where shade trees were of higher value, he was generally indifferent, or felt that protest was hopeless.

The farmers objected to trees along the roadway because they interfered with their field crops, so that in the rural sections the landowner could not be depended upon to protect the trees, but was rather inclined to destroy them. With these destructive forces at work, and no public agencies to oppose them, roadside trees had little chance.

Such were the conditions in Maryland prior to 1914 when the first organized effort was made to protect the remaining trees along the highways. Good roads



HOW NOT TO DO IT

These beautiful old trees along the roadside have been unmercifully hacked, their beauty of contour entirely ruined, to accommodate overhead wires.

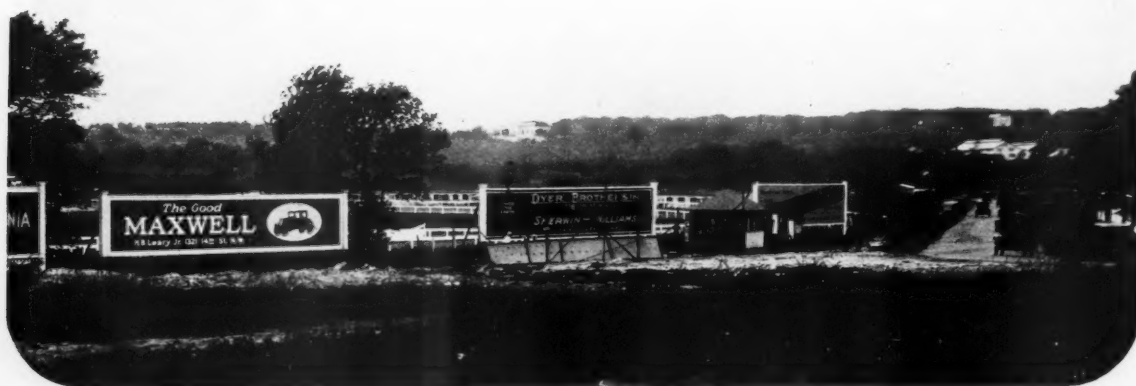
connected practically all of the cities and towns. The automobile made it possible for almost everyone to reach the open spaces, and as people traveled along the improved highways, the ugliness of the roadside became particularly noticeable. Trees and fences were plastered with advertising signs of every description—cardboard, wood and tin—many of them faded and tattered, and in various stages of dilapidation. There were mutilated trees with bare stubs projecting from their scarred trunks, like arms raised to high Heaven in protest to such sacrilege—their shorn branches lying in a tangled mass by the roadside. Such a condition could not fail

to attract the attention of anyone who had the least sense of the esthetic. It did attract attention and led to the enactment of what is known as the Roadside Tree Law.

It would be over-stating the case to say that this law was the result of a popular demand. It was rather the work of a small group of people genuinely interested in improving the appearance of the highways. Their effort had the approval, if not the active support of the great majority of people. Along with such slogans as "Good Roads for Everybody" came the newer one of "Beautify the Highways," and it met a generous response. This new movement was opposed by the farmers generally—a class that has always exerted a strong influence in the Maryland Assembly—not that they objected, particularly, to beautifying the highways, but they feared that it might prevent the removal of trees bordering their fields and cause the planting of trees on

half-way measure would suffice. The law defined roadside trees as all trees planted by the forest wardens or existing trees 3 inches or more in diameter, measured two feet above the ground, and growing within the right-of-way of any public road, including trees in towns and cities; placed the protection of roadside trees under the police powers of the state; eliminated advertising signs within the highway limits and on private property where the owners' consent has not been given; placed the trimming or removal of roadside trees under a permit system, the applicant paying the cost of supervision and inspection; and provided for the planting of trees along the highways, either by the state, or in cooperation with individuals or organizations.

The first public activity under the new law and as part of the movement to beautify the highways was the tearing down of advertising signs. Much publicity was given to the law and an organized campaign started.



IN THE ROADSIDE SIGN NATURE FINDS A HEAVY COMPETITOR FOR "HONORS" AS AN OUTDOOR DECORATOR
It has been aptly said in the campaigns to protect the beauty of our highways by the control of sign posting—"Somewhere behind these signs may be found the lovely natural landscape of our state."

highways adjoining farm lands. The bill was amended to meet this objection in part and finally passed, giving the Forestry Department full authority in the administration of the law. No appropriation was made for enforcing it, so the opposition was happy in the belief that the law would be ineffective. This action, however, had been anticipated in part by the framers of the act who inserted a provision for collecting the costs of control work from those who were granted permits to trim trees, which in most cases would be the pole line companies. The Forestry Department by using its existing organization and with few changes put the law in operation without delay.

Here was an experiment in state control over roadside trees—the first to be tried—and none realized the difficulties better than its sponsors. Any law that raises the question of property rights is destined for some hard knocks, and this one was not an exception. But there were some 2,000,000 trees to be protected and no

Posters publishing the provision of the law were widely distributed. Volunteer helpers were called for and there was a splendid response from civic organizations, the Boy Scouts, and others, who were willing to cooperate with the tree wardens in removing advertising signs. A badge and instructions were given to each volunteer, and June 20, 1914, was designated as "Sign board day."

Bill-boards and posters were collected by the wagon-load. Many miles of highways were cleared of advertising signs. There was no one who read the papers or saw the special posters who did not know that advertising within the right-of-way of highways was prohibited by law. Many protests were lodged by advertisers and suits threatened by some property-owners, who were getting revenue from advertising, but not a single case was ever prosecuted. Public sentiment had been crystallized, and the result was most gratifying.

When new advertising signs appear on the highways a notice to the advertisers together with a copy of the

law is usually sufficient to secure their prompt removal. A number of cases have been prosecuted and fines imposed for failure to remove signs promptly, or cases where advertisers have put up signs after once being notified of the law. The road patrolmen, acting under instructions of the State Roads Commission, have been of the greatest assistance in clearing state highways of advertising signs.

This law does not reach the billboards that are outside of the right-of-way of the highways. Yet there is a growing sentiment against billboards generally, and a number of companies who had previously used outdoor advertising have ceased to do so because of unfavorable public reaction.

The growing practice forces the question for every state: How can we eliminate the huge billboards which block the landscape as viewed from our main highways? Here in Maryland we have exhorted, we have pleaded, we have legislated, and not only are the billboards still with us but they are becoming more numerous and of larger size. In many states, including Maryland, they have been legislated off the limits of the highways themselves only to be placed bigger and brighter at points just back of the rights-of-way. Organized efforts to boycott the products advertised have made little progress

and attempts to tax them out of existence have not been successful because any tax high enough to discourage their use provides the advertisers with valid objections against the constitutionality of the acts on the grounds of discrimination. Neither have the efforts to get property-owners along highways to prohibit the erection of billboards on their property been successful, because the billboards are a source of revenue to them.

One of the most effective ways of putting the billboards out of business, I believe, is by the planting of trees along the highways. A tree-lined highway is almost always free of billboards, simply because the two cannot go together. A line of trees shuts out an uninterrupted view of the billboards, which is essential for effective sign display. If you will observe the location of highway billboards, you will note that they are usually placed along clear stretches of the road where visibility from rapidly moving automobiles permits the reading of the signs quickly and without strain. Planting trees along the highways would in a few years destroy the use of the billboards by blotting them out and at the same time will enhance the beauty of the roads themselves.

The protection of trees along Maryland's highways presented a more difficult problem. The immediate concern was to prevent the mutilation of trees and at the same time give sufficient clearance to telegraph, tele-

(Continued on page 550)



Maryland State Department of Forestry
TRIMMING UNDER SUPERVISION IN MARYLAND

Red cedars along the Baltimore-Washington Boulevard, near Beltsville, which have been carefully and properly trimmed under state supervision to accommodate overhead wires.



Maryland State Department of Forestry
"BEAUTIFY THE HIGHWAYS!"

The value of the Maryland law for the beautification of highways is exemplified in the trimming of these maples along the Boulevard. Done under careful supervision, the natural beauty of the trees suffers very little, if at all.



EDITORIAL

Fire or Forests?

AS this is written, every man's enemy is loose again. Forest fire is on the rampage in the Northwest. Abetted by its allies—dry weather and dry winds—it is driving into the nation's main storehouse of virgin forests. Through California, Oregon, Washington, Montana and Idaho, wooded valleys and mountain sides are aflame. The red enemy is in the National Forests, the National Parks, the state reservations, the great tracts of private timberland, the small homesteads of struggling settlers.

A thousand tongues of fire are dealing black death to some of the finest forests known to mankind. A sinister pall of smoke hangs over mountains, towns and cities. Wood ashes are falling on housetops and main streets. Red embers, wind driven, rift the midday twilight, seeking new points at which to burn and pillage a part of our fair land.

Men—forest rangers, soldiers, civilians—are on the fire lines. The untrained are struggling shoulder to shoulder with the trained fire fighters. The strength and resources of both are slowly being sapped. Industries are being disrupted and stopped. Mountain towns are evacuating. Railroad lines are being cut. Millions of people on vacation bent are fleeing for their lives. Here and there a human corpse is lying in the blackened waste.

Dry winds abate by night. Another day dawns. The fire lines are holding. Hope rises beneath the sweating breasts of the weary, red-eyed fighters. The dry winds stir, unleash their winged steeds and race across the sky. The red enemy rises from the dry duff, leaps the hard-held fire lines and laughs with curses of glee at man's puny defense.

This is in our own United States. You know it. Headlines in the press are telling you there are bad fires in the Northwest. You read the headlines and the first paragraph or two, and say "It's terrible. Forest fires should be stopped."

Talk, reader, will not stop forest fires. It may stop a war of mankind, but not fire in the woods, nor wind in the skies. What is happening in the West today has happened before. Remember 1910. Remember 1924.

Yes, it will happen again and again, until there are no more woods in this good land of ours to burn, unless you and your neighbor rise up and demand the one thing that will stop forest fires—complete preparedness.

Mark you, fire in the woods is a public and national menace. It is more ruthless, more devastating, than uncivilized man. Like savages, it is hiding out in every forest and woodlot and thicket throughout our forty-eight states, waiting for a favorable opportunity to pillage our industries, to poison our springs, and to scalp our valleys and hills of their beauty. Unless we Americans—our Government and our States—are prepared to meet it at its worst, the end is inevitable.

Underscore the words—"at its worst." What does it avail to boast that our state and federal fire fighting armies are well equipped to meet normal fire hazards when we know that an abnormal fire year can wipe out all? Economy? It is an idle gesture here. Our Government and States must equip to meet the worst fire season—equip well, through educational agencies, and actual fire fighting resources. There is no other way to stop fire's mad career when the weather and wind join forces.

Yes, trees by the hundreds and thousands of acres—the growth of hundreds of years,—green trees,—are passing into blackness. Take off your hats to the small armies of brave men from the Forest Service, the Park Service, the state services and the private timberlands, who day after day in unbearable heat, are fighting the red enemy that your country and mine may not be despoiled. They are doing all that is humanly possible with the limited money, equipment and numbers available. And while paying homage to these fighters take a silent oath to become a fighter yourself, behind the lines, demanding that your representatives in Congress and in your State Legislature provide complete forest fire preparedness.

Twenty years of fighting the red enemy has written a clear challenge—FIRE OR FORESTS? It is for you, reader, to meet it.

John Wingate Weeks

IN the recent death of John W. Weeks, late Secretary of War, the cause of conservation has lost a virile leader whose record is one of constructive accomplishment. History will probably never do full justice in recording Mr. Weeks' services to conservation because he was a quiet and unostentatious worker. To many worthy projects he gave freely both of his time and his money, but the country at large knew little of how great a part he played in making accomplishment possible. In his conservation work Mr. Weeks sought results and not credit or publicity. His was the rare character which asked that his name be kept in the background.

Among the many services which he rendered in behalf of conservation, two stand out preeminently. The first was the passage of the Act of March 1, 1911, better known as the Weeks Act, which wrote into the laws of the United States the principle of federal responsibility in maintaining forested conditions at the headwaters of our navigable rivers. This law initiated the work of federal acquisition of forest lands in influencing the water flow of navigable streams in the Eastern United States. Since its passage it has been the instrument through which the American people are acquiring National Forests east of the Mississippi River.

The movement which culminated in the Weeks Act originated in 1899, the object being a National Park in the Southern Appalachians. It was later broadened into a program for a system of National Forests throughout the White Mountains and the Southern Appalachians, but in the years immediately following made little progress with Congress until John W. Weeks sponsored the

legislation and gave it the force of his quiet but vigorous personality. He was at the time a member of the House of Representatives, and applied himself to the task of accomplishment with that admirable determination that later characterized his public career. Under his leadership the legislation was finally passed, after many years of hard legislative campaigning. It is safe to say that had not Mr. Weeks enlisted in the cause, the Act of March 1, 1911 would not have been passed when it was, and possibly never in its original form.

The other outstanding service of Mr. Weeks to conservation which history will not fail to record is that in behalf of the Migratory Bird Law. In 1908 he introduced the first House bill and kept introducing it in succeeding sessions until, combined with the McLean Bill in the Senate, it was finally passed. The measure established the policy of federal control and regulation of migratory birds. Few conservation measures have been so bitterly fought as was this legislation, but Mr. Weeks' leadership, legislative ability and persistent fighting made possible the winning of what is perhaps the greatest legislative victory in the history of game conservation in America.

John W. Weeks was of the old school of conservationists which instilled into the movement a quality of public service that made right conquer where the might of special and selfish interests sought to override. He was one of the few generals who won for the American people a charter of conservation that has withstood all attacks. To him they owe a debt of infinite gratitude.

Sense and Nonsense

GOVERNOR ALFRED E. SMITH of New York recently gave the legislature of that state some pithy advice in respect to legislative economy. The Governor referred to the great amount of time which the legislature devotes each year to the passage and consideration of conservation measures, most of which are of merely regulatory nature.

Why, asked the Governor, should the Legislature waste its time changing the open season of fox squirrels, the taking of lobsters from lobster pots, the season for breeding and possessing ferrets by law, the number of tie-ups that can be used in fishing in Chautauqua Lake, and so on. More than forty such bills consumed the time of the New York legislature last session. Twenty years ago, it cost the State of New York about \$600 for every bill passed. The Governor is interested to know just what it costs today in the light of increased prices for everything. Aside from the cost, it seems nonsensical to him to take up the time of the legislature and the executive office with the passage of purely regulatory bills.

"The sensible thing," he told the legislature, "is to empower the Conservation Commission to make rules and regulations covering the taking of fish and game and wild animals."

The Governor's advice might well be considered by certain committees of the Congress of the United States. For example, a sub-committee of the Senate Public Lands Committee appointed to investigate grazing on the National Forests has, during the last year, spent thousands of dollars of public funds, put many hundreds of people to personal expense, disrupted the work of several federal bureaus, and thus far it has produced no constructive or enlightening report on the subject of its investigation. The net result of its work to date is an elaborate and dangerous regulatory bill which was introduced in Congress and then rather hastily withdrawn when its iniquitous features were brought to light. And the travesty of it all is that the Forest Service already has broad authority to regulate grazing on the National Forests for the best public interests and has been doing it efficiently and constructively for twenty years.



THE GET-AWAY OF THE BLOOMFIELD FIRE, TAKEN FROM THE VANTAGE OF AN AIRPLANE

Fire Line Briefs

By LLOYD A. BRISBIN

More epics have been lived on the fire line than will ever be written.

Each year calls forth its portion of quiet heroism and gruelling labor. These terse sentences, vivid as life itself, tell of one of those innumerable conflicts in the path of the forest's Red Enemy.

They could only have been written by one who had fought and sweat in the inferno he describes.

IT is sunup on the second day of the Bloomfield fire; I have been stung thirty-five or forty times by yellow jackets and feel sick. The Forest Supervisor sends me to Nevada City for treatment, but at 9:00 P. M. the Forest Clerk calls me and says: "You're needed. The Ranger's wife has just called asking for fifty more men. The town of Bloomfield looks as though it will be wiped out."

Ten miles away Ranger Ray Painter and I stop for a couple more men and we can hear the roar of the fire. Ray says, "It looks as though we have our work cut out for us." In the glare of the headlights one would think it is snowing, but it is only charred manzanita leaves falling.

Not a soul is asleep in Bloomfield, the men are away fighting fire and every woman and child is up, dressed and ready to move out, momentarily expecting that the fire will swoop down and destroy their homes.

The roar of the fire is terrific. It sounds like

thunder or a distant barrage. The flames go leaping through the trees which become gigantic torches that light up the night. In ten seconds trees one hundred and fifty feet tall have every needle burned off and are dead.

A New Mexico Ranger in California, in a strange country, at night and trying to fight a forest fire. What a helpless feeling one has! No time to scout around and find out where the old mining road goes. The fire is on you and you have to begin to backfire. A backfire against a twenty-five mile wind. Can you hold your backfire and keep it from becoming the main fire? The Lord knows, but here we go.

Four men begin backfiring with shovels and carbide lamps, nearly on the run. Twenty of us stay behind and with dust try to keep the backfire cooled and from leaping into the crown of the trees until it eats in against the wind for about ten feet. Then we let it go. The crown of manzanita bush suddenly

blazes and throws sparks over the line as though they had been blown from a blast furnace. A minute later and we have half a dozen spotfires over the line. A patrolman lets out a howl, men rush back and help him beat them out.

The old road seems to be leading towards the fire so men, axes and shovels are brought up and a trail is to be cut through.

I ask, "Who knows this country?" No one speaks for they are all miners from Grass Valley thirty miles away.

Some people think that a Ranger does nothing but stroll up and down a fire line in a whipcord uniform directing his men by a few well chosen words. Actually he takes an ax, dives in and sets the pace for hours. What a romantic life!

I tell my men since no one knows the country that one guess is as good as another so we will put a line thus and so. We start, and the line we put through is done. Only about a foot wide, half cleaned out, but we are so hard pressed it is the best we can do. It is crooked, for we dodge around snags and logs. My nice straight line is now full of points and sharp turns that are so hard to backfire and harder to hold.

The heat is intense and the smoke stifling and one feels like giving up—like saying "Hell, what's the use, lets fall back and try another place." But we don't. We fight on. The line grows harder as we hit a brushy area full of manzanita so thick that a dog couldn't crawl through. Ever try cutting brush so hard that it will turn the edge of an ax, on a black night with a smoky lantern for a light? It's a liberal education and a job guaranteed to manufacture new cuss words.

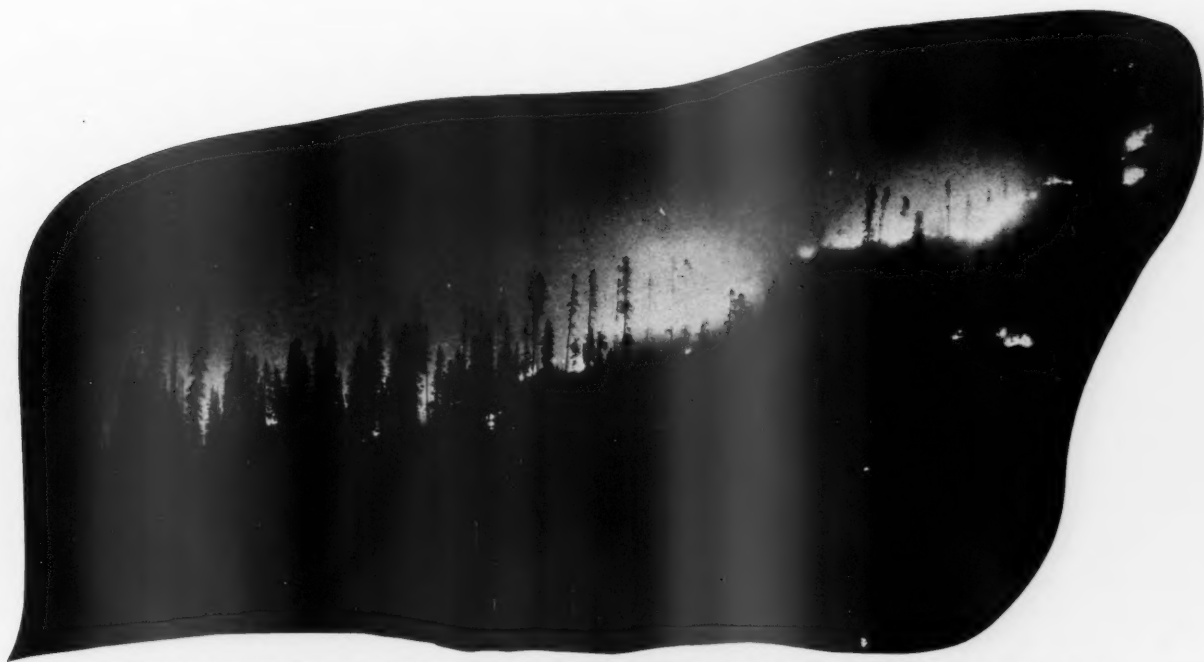
It's 3:00 in the morning now and the men are thirsty, tired and hungry. We put that line down a hill so steep we have to hold on while we work. We hear water running and best of all we see the lanterns of another crew across the canyon coming to meet us.

Then that big fire we saw across the canyon is their backfire and the battle's almost won. If you've never experienced that grand and glorious feeling then you have never fought a crowning, roaring spectacular forest fire.

We meet and it's Dwire, a man from home. "Where is Brennan," I ask, and I find that he has gone for something to eat. Brennan is, besides being a fire fighter of the first water, the champion grub rustler, bar none. I borrow a waterbag and take it back to my men backfiring. I can see them when one suddenly lets out a whoop and begins a dance that would make a Hindu dervish turn green with envy. I rush up and find that a few, red hot manzanita leaves have fallen down his open collar. I laugh and get a dirty look. But I am laughing, more from relief, for so far the line has held and it begins to look as though we can hold it all.

I walk on back and find that my backfire crew has put out no less than two hundred spotfires ranging in size from a silver dollar to two acres. That comes from backfiring against the wind. By sunrise we have the line through, backfired and held, the coffee boiling and bacon frying.

So ended that September night at Bloomfield, California. Multiply it by nine days and nights and maybe you can begin to see why a fire fighter grows sour, disagreeable and short tempered. Well, it's all in the day's work.



"THE ROAR OF THE FIRE IS TERRIFIC. IT SOUNDS LIKE THUNDER OR A DISTANT BARRAGE. THE FLAMES GO LEAPING THROUGH THE TREES, WHICH BECOME GIGANTIC TORCHES LIGHTING UP THE NIGHT"

FOREST PEOPLE

When Trouble Troubled the Delaware Forest

By LEWIS EDWIN THEISS

STANDING beside a window on the upper floor of her home, an anxious-eyed woman was watching a thin column of smoke close at hand that stole upward through the trees of the forest. In the room with her was a woman, helpless in bed, and the woman's three-day-old son. No men were about the place. The little clearing in which the dwelling stood also held a barn, located at the very edge of the forest. And this Pennsylvania forest, that stretched in every direction as far as the eye could see, was now on fire.

The woman at the window was Mrs. Norah Apple Stadden, wife of District Forester R. W. Stadden, who was responsible for the safety of this vast stretch of timber, and who was even now deep in the forest, fighting fire. The mother of the little child was the wife of a second forester, also on duty far away.

As the column of smoke in the forest grew thinner, Mrs. Stadden drew a sigh of relief. The fire was in the bottom, beside a tiny trout brook where some careless trout fisherman had dropped a lighted match or smouldering cigarette. The forester's house was on the top of a little eminence. Had the brook-side blaze reached the slope that led directly to the barn, it would have gone roaring up the hill, sucked upward by

the wind as flames are drawn skyward through a drafty chimney. Only the vigorous efforts of a local forest ranger and his son had prevented that catastrophe. Although Mrs. Stadden knew the ranger was subduing the fire, she stood spellbound at her post fearful of one of those unforeseen occurrences

that so often take place in battles with fire in the forest. Suddenly, what she feared happened. At a distance from the dying fire she saw a shaft of flame suddenly spring upward and with incredible rapidity dart straight for the barn. And this fire was far too large for one man and a boy to handle.

"What did you do?" I asked Mrs. Stadden, for as Fire Warden in charge it was up to her to handle the situation. "I realized at once that the ranger and his son would see this new fire," she answered, "and I also knew that they must have help. It was up to me to get it. But none of my neighbors had telephones, so I knew I must go on foot for help. The nearest neighbor was a mile away. Turning to the girl who was tucked in bed, I told her about the fire and said that I would have to leave her while I went for help."

"Don't be alarmed," I said to her. "Pete is out there—Pete was the ranger—and if the house is in danger, he



NORAH APPLE STADDEN

In effect, if not in title, Deputy District Forester on the Delaware Forest in Pennsylvania, she has devoted herself tirelessly to the interests of the State.

will start a backfire at the edge of the barn." "Give me my baby and go," said my companion."

"So, I laid him beside her, leaving her there helpless and alone, while I ran a mile to notify my nearest neighbor. He started at once. Back home I ran and then on past the house over a mile in the other direction, to notify another neighbor. He, too, came at my summons, bringing with him a man in his employ. This little force proved enough. In a few hours the fire was out, and peace settled down for the night over the little house on Snow Hill."

"I suppose that was as bad a scare as you ever got," I said.

"Scared? No, we were not scared. It never occurred to either of us to be frightened. We were just two foresters' wives living through the strenuous days of the fire season."

Strenuous enough those days are, too, for any forester's wife. For Mrs. Stadden they had been more than strenuous. She had been more than just a Forester's wife. In effect if not in title she had been Deputy District Forester. For months after her husband had been sent to take charge of his district in the Pennsylvania State Forest, Mrs. Stadden managed matters at home during his absence—and that was most of the time. She gave overnight permits to fishing parties; assigned camp sites; instructed campers as to what kind of wood they might use for fuel and where to cut it; assisted Camp Councillors in establishing girls' camps, for Mr. Stadden's district is in the very heart of the Pocono summer resort region; and in innumerable other ways she carried on while her husband was taking care of the field work necessary to the organization of his territory.

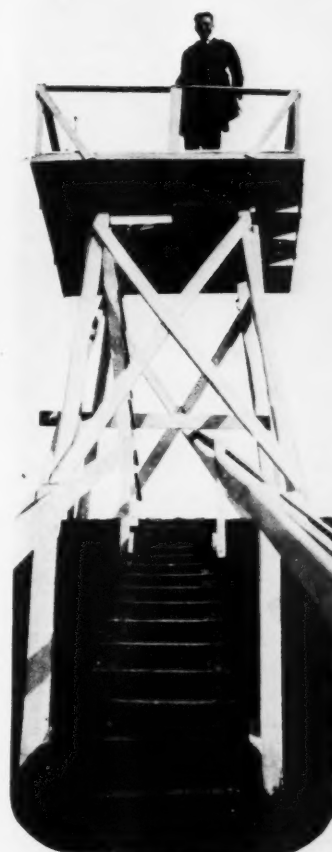
When the present system of fire protection was put into operation and Mr. Stadden had to organize fire fighting units in every township in his district, he packed a tent and a supply of grub in the back of his Ford, and with Mrs. Stadden on the front seat beside him, set forth. Thus, she became acquainted with the local fire wardens and with the entire working of the fire-fighting system. Realizing how well qualified Mrs. Stadden had become, the State Forestry officials appointed her Special Forest Fire Warden, giving her authority

under the law to compel anyone to fight fire. Thus equipped, Mrs. Stadden took full charge at headquarters when her husband was absent.

At Snow Hill, on that same little barn toward which Mrs. Stadden saw the header of flame go racing, is an observation tower. It is one of a number in the Delaware Forest, of which Mr. Stadden has had charge since his return from France in 1919. To gain it, one scrambles up the perpendicular ladder on the side of the building, then mounts toward the comb of the roof, and goes up another little ladder to the tower. When Mrs. Stadden was in charge of Snow Hill she had to be in this watch tower at least once every hour from daylight to dark. When smoke was seen, she had to

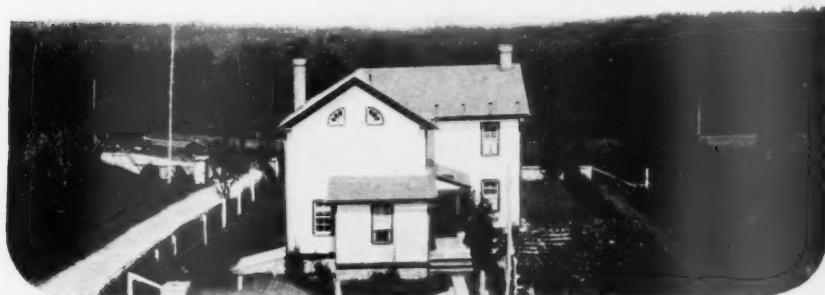
locate it, and since the view from the tower includes many thousands of acres of mountain land, this was not always an easy task. Sometimes it was necessary to call up other towermen and by triangulation determine where the fire was. Then Mrs. Stadden had to order out the proper fire crews.

One day in the autumn of 1922, when, after months of drought, the Pennsylvania forest was as dry as tinder, Mrs. Stadden saw a new fire spring up in the forest at a time when every available man for miles around was already in the forest fighting fire. She was at her wits' end. Suddenly, far down the road, she heard a motor-car roaring along. "Be they princes or paupers," she



THE OLD WOODEN FIRE TOWER ON THE BARN AT SNOW HILL

Up this tower Mrs. Stadden climbed many times when the wind was so fierce she had to crawl to keep from being blown off. It has now been replaced by a steel structure.



THE FORESTER'S HOUSE AT SNOW HILL

This is the Pike County Fire Lookout Station. High Knob is seen in the middle distant back ground. This view is from the tower, looking directly north.

said to herself, "the men in that car are going to fight that fire!" Down from the tower she scrambled, and out to the road she ran, just in time to plant herself in front of the onrushing automobile. Then happened another of those unexpected occurrences connected with forest fire fighting. The motor-car roared up the hill and stopped before Mrs. Stadden's uplifted arm. It was jammed with men. And they were a fire crew that had just whipped a blaze and were rushing back to their headquarters!

Watching for fires and ordering out fire crews, however, was only a part of Mrs. Stadden's task. All fires are reported promptly to headquarters. Mrs. Stadden had to make a complete record of these and keep track of them. As soon as a fire is extinguished, the fact is also reported to headquarters, and checked on the fire chart. Like a train dispatcher with his trains is the person at headquarters with his fire crews. Mrs. Stadden had to know where every fire was burning in her vast territory, how the fire crews were getting along with their work, and what men she had available for use. Sometimes she had to reinforce a hard-pressed crew. Sometimes she could obtain a spare man where the battle was going well. It was a trying and responsible position for any one.

Possibly as difficult a thing as she had to do has been to send her husband back into the forest at night, when, already worn with a day of battling flames, he got in touch with her at headquarters to find how things were

going. Every evening between seven and nine, he tried to talk with her by telephone. If he found there was still a fire unconquered, the Forester assembled what men he could get and reinforced the tired men who were fighting it. For under Secretary Robert Stuart, as under his predecessor, Governor Pinchot, the morale of the Pennsylvania forestry forces is high. When they cannot conquer a blaze in the daytime, they redouble their efforts after nightfall.

In between times Mrs. Stadden has done publicity work for the forestry cause. One of the booklets, issued by the Pennsylvania Department of Forests and Waters is an appealing little forest fire story for children, by Nora Apple Stadden, *How Trouble Troubled the Little Bear Forest*. Many a member of the coming generation will become a forest conservationist through reading this booklet, and never realize what made him one.

But if her publicity work, like charity, began at home, it did not end there. For five years ago the Pocono Forestry Association, which has conducted a forestry exhibit at the local township fair for thirteen years, made Mrs. Stadden chairman of its forestry committee. Mrs. Stadden also served on the Conservation Committee of the Stroudsburg Civic Club, and is now State Chairman of Conservation for Pennsylvania's State Federation of Women's Clubs.

As for the Delaware Forest, the people in it have slept the sounder because of the devoted woman at Snow Hill. May trouble never again trouble the Delaware Forest.

"Ol' To'able" and the Firebug

(Continued from page 535)

forest fire. I sent a constable after him with a warrant for his arrest, and there you are."

"How did you do it, Mary? Tell your stupid old father that," Ezra demanded.

"Well, Daddy, we knew each time a fire started Joe was in the village. Still I felt he was guilty. So I tried to reason out how he may have done it. There appeared to be only one possible solution—he set the fire during the night, but in such a way that it wouldn't break out until next morning and by that time he could have made his appearance in the village and establish an alibi. When I sent you to watch him, I had no more idea how he did it than you had. But I knew if we could find *where* he started it, we could find out *how* he started it.

"Well, you saw where he went, all right, but you didn't see him do anything. Why? Not because he knew he was being watched, but simply because when he stood on the oak knoll and looked at the sky, he could see that it might rain. Naturally, the rain would put out the fire and his work would be for nothing. I didn't think of that until after you had come home. So last night I thought that I would go watch. The leaves were dry and there were no signs of rain for the next day, so everything was favorable.

"Sure enough! He started out just as the night be-

fore. He went to the knoll, looked at the sky, and, convinced that today would be clear he suddenly dived into a clump of oaks. I could see just the faintest flicker of light for a moment, then all was dark. Presently he came out and started down the hill towards home. I waited a few minutes, and then crept into the thicket. Guess what I found?"

"What?"

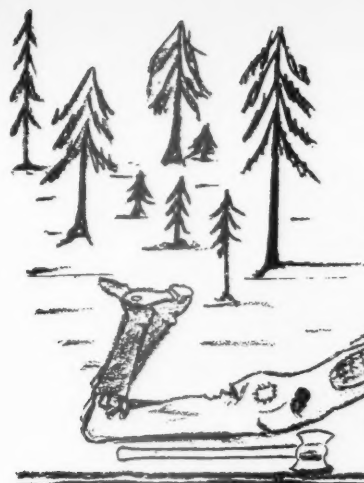
"A ventilated shoebox, half concealed in a pile of dry leaves, with an extra large candle inside burning merrily away. Of course, when the candle burned down the leaves would ignite—there was waste soaked with kerosene on the bottom—and a forest fire would start. Naturally, the evidence would be destroyed in the blaze. That's all; you know the rest."

"Well, I swan," Ezra ejaculated. "You're certainly a smart girl, Mary. I'm mighty proud of you, and that's a fact."

"Wasn't that pretty clever, Ezra?" asked Sam admiringly.

"Pretty clever, Sam? Did you say *pretty* clever?" Ezra demanded. "Why, I call that *tol'able* clever."

But, of course, the point is that the forest fires in Meade Township ended. Which was just as well, Mary reflected, for the real truth of the matter was that Ezra Whitt was not as young as he used to be.



Sapling Sam's Scrap Book

Historical Notes on Paul Bunyan

Since I have been travelling in the Western country I find evidences of carelessness of the Forest Service in the days of Paul Bunyan. In fact, they were no good. Paul logged off several states and the Canadian Northwest. His operations were not confined to North Dakota as the North Woods used to claim.

The North Woods' stories were incomplete; they told of the appetite of the crew and Babe (the blue ox), but never explained where the cook got sufficient fuel to cook all those flap jacks. The cook burned the timber to heat the griddle. Evidence of this is the alkaline water that we have to drink tainted by the ashes left behind. That's why North Dakota went dry, years before the eighteenth amendment. There was nothing good to mix with whiskey.

If I were a Forester, I'd start a research bureau and follow Paul Bunyan to his grave. It might reveal conditions then existing that would prove a good lesson to the present Forest Service and wake the country up to forest conservation.

—A. F. Wixson, in *Smoke Screen*.

Cows and Recreation

Cow. A domesticated farm animal, famed and tolerated because of the milk (a beverage) she produces, that frequently ambles up and looks in on a picnic in a stupid sort of way. Many have wondered what a cow thinks when she looks at a picnic, but nobody has ever found out. Perhaps it is just as well. People should be particularly careful about choosing the cow that is amble up and look on. If she is not of the right political party, he is likely to cause the picnic to flop.

—*Kansas Industrialist*.

Doping the Moron

"I don't know what's got into that young clerk of mine these days, I can't get any work out of him."

"That's not surprising. Spring may quicken the sap in the trees, but it slows up the sap in the office."—*Boston Transcript*.

You Win

Recently Smith has been an unwelcome visitor around the different offices selling membership in the local Fish and Game Association. He called upon Bill Nagel at his office, and (Bill being out) left the following note:

Dear Bill: Called on you today to sell you a membership in the local Fish and Game Association. You not being present to defend yourself, I am leaving you a membership card for which you owe me \$1.00. Smith.

A few days later the following note was received from Bill:

Dear Glen: Regarding membership in Fish and Game Association, came over today to match you to see if I would pay you two bucks or nothing. You being absent, I had to match for both of us, and regret to say that you lost. Nagel.—*The Bulletin, Northern District*.

How a Forester Got Rich

He started poor as a proverbial church mouse twenty years ago. He has now retired with a comfortable fortune of \$50,000. This money was acquired through industry, economy, conscientious effort to give full value, indomitable perseverance, and the death of an uncle who left him \$49,999.50.

—*Press Item*.

Baiting the Minister

Young Harold was late for Sunday School, and the minister inquired the cause.

"I was going fishing, but father wouldn't let me," announced the lad.

"That's the right kind of a father to have," replied the reverend gentleman. "Did he explain the reason why he did not let you go?"

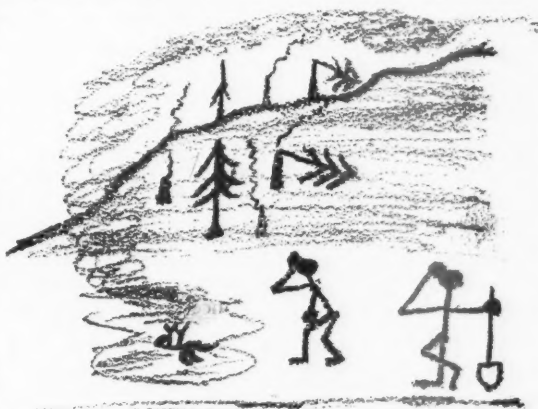
"Yes, sir. He said there wasn't bait enough for two."

—*Open Road*.

Alarming Symptom

One of the best schoolboy howlers that we have heard is the definition of rhubarb as "a kind of celery gone bloodshot."

—*The Outlook*.



New Fire Hazard

Forests and Waters reports a recent news dispatch from the Weiser District which states that a forest fire near Ashland, Pennsylvania, was caused by a chicken scratching dry leaves into a bed of hot coals dumped along a road adjacent to forest land. Chief Forest Fire Warden Wirt has been busy answering inquiries as to whether it was "stewed" chicken before the fire or fried chicken afterward. He is puzzled as to the proper classification of the fire among the list of causes, which include railroads, brush burning, transients, and incendiary. It is suggested that Ranger Smith conduct an educational campaign among the chickens of his District and teach them some other step besides the Charleston.

How Maryland Cares for Her Roadside Trees

(Continued from page 541)

phone, and electric light wires so that uninterrupted service might be maintained.

The Forestry Department held a conference with representatives of the pole line companies for the purpose of bringing out the main points in the problem to formulate a plan of action that would be fair to all concerned. The pole line companies were reluctant to offer suggestions or to commit themselves on any proposition, but expressed a willingness to cooperate *as far as possible*—whatever that might mean. Principles

were laid down and a working plan outlined, providing for state supervision by the Forest Wardens of all trimming by the pole line companies under specific permits. One of the more important pole line companies contested the State's right to regulate tree trimming, contending that the law was unconstitutional, and carried its case into court. The lower court upheld the authority of the State, and when the company carried the case to the State Court of Appeals the law was sustained. This ended the controversy and placed the administration of the law on a sound basis.

Considering the diverse interests involved the law has operated with remarkable smoothness. The courts have sustained the property-owner's right and interest in roadside trees to such an extent that the pole line companies almost invariably secure tree trimming permits from the abutting property-owner, even though they have a State permit. In practice the permission of the property-owner is granted as a formality knowing that the trimming itself must be under competent State supervision.

Under the Maryland law neither the pole line company nor the landowner can cut or remove a roadside tree without a permit from the Forestry Department, and the Forestry Department can, and does, stipulate the conditions under which the trimming or removal of the tree may be accomplished. It thus appears that the roadside tree has two strong protectors, one the owner of the land and the other the State. It has, at least, two chances for its life.



Maryland State Department of Forestry

THE "CAUSEWAY" AT THE HERMITAGE

One eagerly accepts the cool and scented invitation of the pines to travel this old road to the very end.

It often happens that a landowner wants to remove or trim a tree standing within the right-of-way of a highway or along a street because it interferes with the use of his land for farming or for business purposes. Such a tree cannot, under the law, be removed or trimmed without a State permit, although the applicant may own the land on which it stands. A permit is granted, only after examination of the tree by the State Inspector who must safeguard the public interest to the fullest extent.

Seventy-five per cent of the roadside tree trimming is done by the pole line companies in clearing their wires, and while they protested at first they are now cooperating in a most satisfactory way. They realize that the law helps them in removing, in large part, the controversies and conflicts with private owners which were so common before State supervision was adopted.

The Forestry Department cannot require the property-owner, the pole line company or anyone else to remove or trim trees, but it can prevent them from cutting or trimming roadside trees. In the case of highway authorities charged with the maintenance of the public roads, their right to trim or remove trees interfering with traffic in the roads is recognized. Under agreement with the Forestry Department, the District Engineer, in the care of State Highways, or the County Road Engineer in the care of county roads, are commissioned as forest wardens, and must first pass upon such cases and assume responsibility. Where there is doubt as to the necessity of removing a tree the matter is referred to the Forestry Department. In any event, except in emergency, a permit is required.

The Roadside Tree Law gave protection to the trees within the rights-of-way of highways, but did not provide protection for trees and shrubbery on private property by the roadside, which were being rapidly despoiled. It seems to be a habit of thought with many people that anything growing wild by the roadside is free to him who cares to take it. Consequently, with the exodus of people to the country on Sundays and holidays, so great-

ly facilitated by the automobile, attractive flowers, ferns, shrubs and tree branches suffered depredation, and much of the beauty of the roadside was destroyed.

Then there were the Christmas tree vandals who were wont to make forays into the country before Christmas to gather holly, running pine, and other evergreens which beautify many of our roadsides. Further legislation was needed to take care of this evil, so in 1918 a law was passed supplementing the Roadside Tree Law and extending protection to trees, shrubs, vines, flowers, moss and turf. Under this law it is a misdemeanor punishable by fine or imprisonment, to remove or injure any of those growing things without the written consent of the owner or under his personal direction. While this is not a forest law to be enforced by the Forestry Department, the Department has taken an active stand in supporting it, and has often invoked the aid of the police officers of the State and the counties in securing convictions when the law has been violated.

To encourage roadside planting, the Forestry Department is now growing trees suitable for the purpose at its State Forest Nursery. This stock is distributed at cost to any individuals or organizations who will agree to plant the trees along the highways. During the past five years an average of 2,000 trees have been distributed each year for this purpose. The plantings have been very much scattered but, in the aggregate, help to beautify many stretches of roadway. The demand for the trees far exceeds the supply, showing that the highway planting movement is growing.

The chief difficulty is that most of our roads are too narrow to permit planting in the right-of-way at a sufficient distance from the edge of the road to satisfy the road authorities, and where trees are planted back of the highway limits they are outside of State jurisdiction and control.

Some years ago the New Jersey Shade Tree Commission estimated that the average value of a well grown shade tree was \$100, and this value has been more recently increased in Massachusetts.

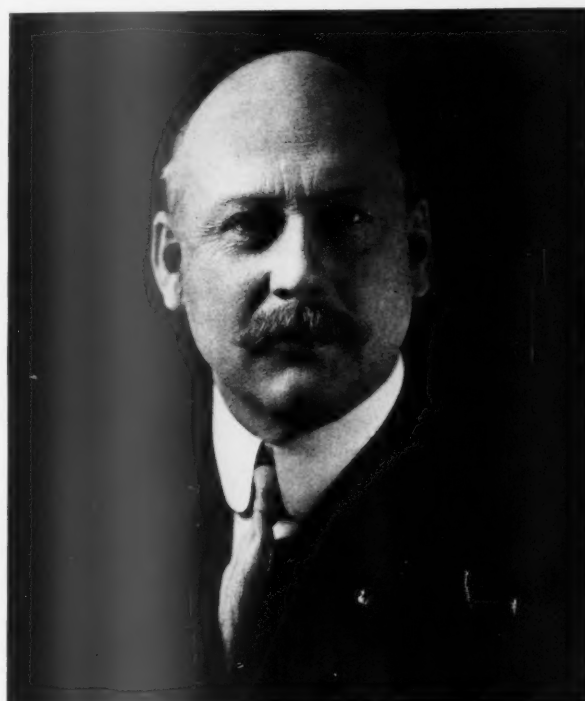
Forest Fires and Recreation

(Continued from page 520)

tance along public highways and railroads and next to adjacent woodlands, where it should be universally required. Personally I believe that timberland owners themselves will voluntarily turn more and more to slash disposal as a protection against fire, insects, and disease, and as a means of securing satisfactory reproduction. I should not be surprised to see the time come when the owners themselves will ask the States to use their authority to require universal brush disposal as they have already asked it to enforce universal fire protection within the Maine Forestry District. Such action would protect owners ready to safeguard their own land against those not ready to do so and would place all owners and operators on the same footing.

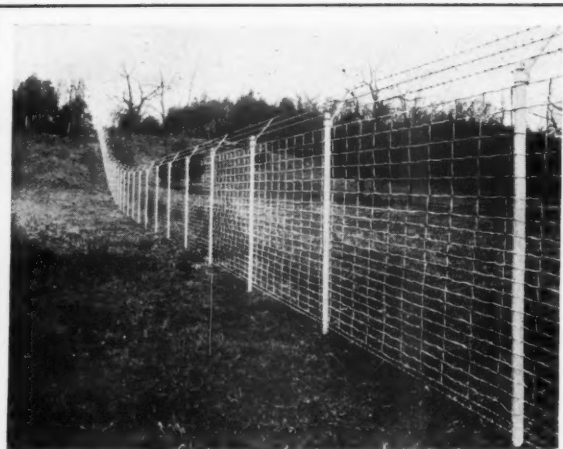
Laws alone, however, no matter how numerous or

how skilfully framed, will never solve the forest fire problem. They must be vigorously enforced, cordially supported by public opinion, and efficiently administered by an adequate fire protective organization. Private owners, local, town and county officials, the State Government, and the Federal Forest Service should all participate in the work; but my own feeling is that the keystone of the entire system should be the State Forester. He should have authority not only to cooperate with but to supervise the activities of private owners and local officials. Only through such centralization of authority and responsibility can really effective action be assured.



JOHN WINGATE WEEKS
1860-1926

Secretary of War under President Harding and President Coolidge, a figure of outstanding national importance, his death will be keenly felt. Father of the Weeks Law, he gave to the country the legislation which initiated the acquisition of National Forests in the East, based on the responsibility of the federal government to maintain forested conditions at the head-waters of navigable streams. Secretary Weeks was a Vice-President of The American Forestry Association and a strong supporter of its program. His name is written indelibly into some of the most important conservation history of our time.



Anchor Square Mesh Wire Fence surrounding game preserve on property of Walter C. Teter, Esq., Harveys Lake, Pa.

Effective Protection for Game and Forest Preserves

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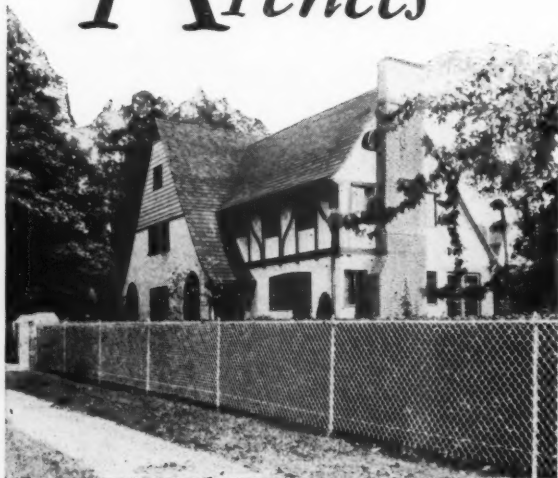
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"Who's Who" Among Our Officers

HENRY WHARTON SHOEMAKER was born in New York City. He early acquired an interest in forestry since his father was interested in lumber industries in the south, and his maternal grandfather, the late Colonel James W. Quiggle at one time was one of the largest owners of standing timber in the West Branch Valley of Pennsylvania. He was educated by private tutors, at private schools, and attended Columbia College three years. Juniata College, Huntingdon, Pennsylvania, gave him the Honorary Degree of Doctor of Literature in 1917, and Franklin Marshall College, Lancaster, Pennsylvania, gave him the same Honorary De-

gree in 1924. He spent his school and college vacations mostly studying forestry problems, especially forest fires in the Pennsylvania Mountains, and later studied soil erosion and kindred problems in France, Spain, Italy and North Africa.



HENRY WHARTON SHOEMAKER

In 1904 Colonel

Shoemaker was Secretary of the American Legation at Lisbon, and in 1904-1905, one of the Secretaries of the American Embassy at Berlin. While in Germany he made a number of tours through the Black Forest studying the latest phases of forestry development and utilization.

Becoming a newspaper publisher in Pennsylvania in 1905 he devoted the editorial policies of several papers which he has owned successively to the problem of re-forestation, and combating the forest fire evil. In 1918, while absent at the World War, he was appointed a member of the Pennsylvania State Forest Commission. Assuming his duties actively on retiring from the Army, Colonel Shoemaker engaged in the task of reorganizing the Pennsylvania forestry department, and in 1919 was chiefly instrumental in securing the appointment of Gifford Pinchot as a member of the Forest Commission by Governor Sprout.

In March, 1920, when Mr. Pinchot became Chief Forester of Pennsylvania, Colonel Shoemaker visited with him all forest lands in the State, and developed a plan for naming the State forests and their subdivisions, and a system of State forest monuments, parks, drives, views and camp-sites, which has been brought to a high state of efficiency by Mr. Pinchot and Major

(Continued on page 561)



A Tree of Happiness—worth as much as a House

AXIOMS OF TREE CARE

DR. J. FRANKLIN COLLINS, Forest Pathologist, U. S. Department of Agriculture, expresses sound advice in his publication, *Tree Surgery*: "A badly diseased or injured tree should be removed and replaced by a healthy one unless there is some very special reason for trying to preserve the tree."

"This applies particularly to an old tree that has been in poor condition or in poor soil for some years. Such a tree rarely recovers completely from the shock of extensive or elaborate repair work on the trunk; in fact, it often deteriorates more rapidly thereafter."

"Two axioms of tree-repair work (tree-surgery) that should be borne in mind

TREE CAVITIES constantly, are (1) that prompt treatment of freshly made wounds is the surest and most economical method of preventing disease or decay in the future, and (2) that all wounds made in tree-surgery work should be cleaned, sterilized, and protected from infection just as thoroughly as in the case of animal surgery and for exactly the same reasons."

Many valuable trees have been slowly killed by decay and insects working in the trunk and limb wood through cavities.

Unless the exposed wood is kept protected a cavity will continue to increase in size until the entire tree is destroyed and if the open cavity method is used constant treatment is necessary.

Due to faulty tree surgery work of the past there are many

advocates of open cavities but with improved fillings now in use this type of tree work is fast being abandoned.

There are in use several fillings with merit of which no one is best for every condition. Unfortunately for the profession, the lack of proper selection of fillers has not only brought discredit upon tree workers in general but has been the indirect cause of the death of many trees treated at great cost.

Cement is the most accessible material and naturally at first was widely used for filling. Later researches have developed other types of fillings which are more flexible, adhere to the wood, and which more nearly simulate the appearance and characteristics of wood. These flexible fillers bend with the tree and prevent cracks which allow moisture to enter around the filling.

Members of the TREE CARE SERVICE have been using various fillings for many years and from their long experience have become expert in determining how best to treat each individual case. This SERVICE brings together the leading professionally endorsed tree care firms of the country and they can advise you as to the best way to handle your cavity problems.

All tree problems can be more economically handled by tree specialists. They have the equipment and materials ready for correct use.

Let us make your trees safe and strong. Write to us:

An Association of the most highly endorsed individual TREE CARE EXPERTS in the Atlantic and Central States.

TREE CARE SERVICE BUREAU

LANDSCAPE FORESTERS, LTD.
52 Vanderbilt Ave., New York

HARRISON, MERTZ AND EMLEN
1713 Sansom Street
Philadelphia, Pa.

CHAS. F. IRISH COMPANY
Bratenahl
Cleveland, Ohio

THE L. H. MEADER COMPANY
Providence, R. I. Newport, R. I.

MEMBERS:

Members of this Bureau have offices or representatives in important centers.

Write to Any Member

whose name appears on this page, or address:

TREE CARE SERVICE BUREAU

(Room 401) 155 East 42nd Street New York

THE VAN YAHRES TREE SERVICE, INC.
Westbury, New York

MUNSON-WHITAKER
COMPANY
Tremont Building
Boston, Mass.

WAHL AND FERGUSON
Rye, N. Y.

H. STEVENSON CLOPPER
2831 Ridgewood Avenue
Baltimore, Md.

H. L. FROST AND COMPANY
Arlington, Mass.



With The American Forestry Association

Jove Works Hard This Season

"This is the worst lightning period ever experienced in the National Forests of the Northwest," is the statement of the Portland Forest Service offices, referring to the period from July 10th to 20th this year. Over eighty-one per cent of the forest fires during this period have been caused by lightning.

With lightning the main cause in this ten-day period, fires were concentrated in Northern Washington, on the Colville, Chelan and Mount Baker National Forests; although three Oregon forests likewise suffered, the Ochoco, Umpqua and Fremont. The Umpqua had fifty-five fires from one dry electric storm. The Colville and Chelan Forests fared the worst during this period.

Ford Leads Fire Cooperation in Kentucky

One of the largest timber land owners of Kentucky placing their timbered and cutover lands under the protection of the Kentucky Forest Service is the Fordson Coal Company, of which Mr. Edsel Ford is President. Its holdings in Clay and Leslie Counties approximate 120,000 acres. In cooperation with the adjoining timberland owners, the Kentucky Forest Service has formed a Forest Fire Protective Association on this area, representing approximately 200,000 acres of which the Ford interests are about the center.

Thus Henry Ford, who has put into effect so many constructive ideas, is acting as a leader in placing his timbered holdings under the protection of the Kentucky Forest Service, that his hills and valleys may stay green and a future supply of timber for his mines and automobile industry be in reserve for future use.

A very intensive system of local wardens is being trained and located at str-

are composed of the largest, as well as the smallest, timberland owners in these counties.

Is the Tourist Forest-Fire Proof?

To what a slight extent forest fires in California affect tourist travel to National Parks is indicated by the travel figures of Sequoia and General Grant National Parks. Despite 21 forest fires in June—all set by lightning—there was a record park travel for that month of 4,068 cars and 13,534 visitors and on July 8th the total travel for the 1926 season was 18,610 cars and 52,487 visitors, an increase of 144% over last season.

Perhaps the secret lies in the fact that National Park rangers had every one of the 21 park fires under control within a reasonable time and at no time were visitors inconvenienced in the slightest degree.

Tennessee's Spring Forest Fires

A forest fire report covering the period from January 1 to June 30 has just been compiled by the State Division of Forestry, Tennessee. According to the report, 706 fires occurred this spring on the 7,000,000 acres of woodland on which an organization of forest patrolmen is maintained by the Forestry Division. The total area burned over was 111,559 acres or an average of 158 acres per fire. The total estimated damage to merchantable timber, young



tegitic points on the area. These wardens are native small farmers and wood cutters who live on the protected area and are only paid when they are actually fighting fires or doing other specified work.

At present there are two other protective associations being formed in Harlan and Bell Counties, representing approximately 150,000 acres. These Associations



The PLUS in Lumber

delivered personally to the Industrial Lumber User by the 86 Weyerhaeuser Lumber Representatives

MANY purchasing agents for industrial concerns will remember when the Group Selling Plan of the Weyerhaeuser mills first placed at their disposal the combined output of 17 complete manufacturing units through one direct, personal representative.

This pioneering move in Lumber Service brought a new breadth of contact between the industrial lumber user and lumber producer. Not merely in the buying and selling of lumber but in the ever growing contribution of scientific lumber knowledge to the industrial world—resulting in many efficiencies and economies.

As this industrial service has developed here are the PLUS factors delivered today by the 86 Weyerhaeuser Representatives:

- 1 **Dependable Source of Lumber Supply**—including 12 species. Among them are Douglas Fir, Pacific Coast Hemlock, Western Red Cedar, Ponderosa Pine, Western Larch—and the finest of Genuine White Pine.
- 2 **The right wood for each purpose.** You might talk your problems over with the Weyerhaeuser Representative. Get his recommendations. What Weyerhaeuser has contributed to crate users, for instance, is industrial history.
- 3 **The species and grade you order**—not some kind of lumber that somebody else thinks is good enough for you so long as you don't know the difference.
- 4 **And at the right price.** About this price matter a good deal of confusion still exists in the minds of many buyers as to just what the proper species and grade designation really is for the lumber they are using. If it's actually No. 3 White Fir the buyer naturally penalizes himself when he calls for prices on No. 2 Spruce. The safe thing for him to do is to let the Weyerhaeuser man specify it for him in the recognized Association standard terms of the lumber manufacturer. Then all of his bidders will be bidding on the same basis.
- 5 **Lumber of standard grades** and uniform in grade time after time. The specification of lumber by obsolete, local or special grade names may get you a cheap price but not the same lumber.
- 6 **Full tally, species, grade and quantity.** About this matter of tally, you can buy lumber today on different units of measurements: board feet, surface feet and lineal feet. Therefore, it is well to specify the unit of measurement you are buying—and then to know that it is actually delivered.
- 7 **Lumber scientifically logged, manufactured, processed and seasoned.**
- 8 **Resources of 17 saw mill plants,** served by modern logging camps in as fine stands of timber as grow anywhere.
- 9 **Shipment within 24 hours,** if necessary, from three fully equipped Distributing Plants at Baltimore, Portsmouth and Minnesota Transfer.
- 10 **The personal interest of Weyerhaeuser Men** in each of the customers they serve—an asset that the man who forever shops around for a "cheaper price" never dreams of.

Why not let the Weyerhaeuser man tell you personally what he can do for you?

WEYERHAEUSER FOREST PRODUCTS SAINT PAUL • MINNESOTA



Producers for industry of pattern and flask lumber, factory grades for remanufacturing, lumber for boxing and crating, structural timbers for industrial building. And each of these items in the species and type of wood best suited for the purpose.

Also producers of Idaho Red Cedar poles for telephone and electric transmission lines.

Weyerhaeuser Forest Products are distributed through the established trade channels by the Weyerhaeuser Sales Company, Spokane, Washington, with branch offices at 208 So. La Salle St., Chicago; 285 Madison Ave., New York; Lexington Bldg., Baltimore; and 806 Plymouth Bldg., Minneapolis; and with representatives throughout the country.



growth, forest products, improvements and grazing, resulting from the 706 fires was \$259,351, or an average damage of \$367 per fire.

Of the 706 fires, 185 of them were of incendiary origin, 94 resulted from carelessness in brush burning, 63 were attributed to railroads, and 33 were the result of smokers' carelessness. Two hundred and seventy-six were not determined. Only two of the total were caused by lightning, hence it may be safely said that 704 of the fires were caused directly or indirectly by human agencies.

During this same period last year 839 fires were reported. The apparent lighter fire season may be attributed to two causes, namely, weather conditions unfavorable to fires and increased interest in forest protection on the part of the public. This latter is borne out by the fact that 2,800 citizens gave their services on the fire line and over 140,000 acres of timberland have been listed by the owners with the State for protection from fire on a cooperative basis.

New England Forestry Meetings

The annual meeting of the New England Section of the Society of American Foresters is being held this year at Middleboro College, Vermont, August 22-26. A feature of the meeting will be a trip over the forest holdings of Middleboro College, an area of 30,000 acres, which under the direction of the College Forester, Mr. Fritz, is practicing forestry on a sustained yield basis.

On September 1-3 the Society for the Protection of New Hampshire Forests will celebrate its twenty-fifth anniversary by holding its annual meeting at Lost River, North Woodstock, New Hampshire. All persons interested in forestry are cordially invited to attend these meetings.

Great Timber Plant in Louisiana Burned

On July 25 flames raised havoc in the plant of the Great Southern Lumber Company at Bogalusa, Louisiana. Damages resulting from the fire amounted to about \$450,000, the planing mill being completely destroyed as well as a part of the monorail system. The lumber company is arranging to have some of its planing mill work done in transit both at Jackson, Mississippi and at New Orleans. It hopes to have temporary machines running in about thirty days and the whole planing mill should be completed within ninety days.

The following statement was given out by W. H. Sullivan, Vice-President and General Manager: "There will be no delay in our operations, and we will be able to supply our



customers quite promptly. None of the rest of our plant was damaged, and the planing mill will be rebuilt the same size as it was before the fire."

The origin of the fire has not yet been determined.

A Forest Fairy Tale

One of our members, Mrs. W. N. Hutt,



Editor of the Woman's Department of *The Progressive Farmer* of Southern Pines, North Carolina, wrote in March relative to the bad spring forest fires and said that her little niece, eleven years old, who was visiting her at the time was terribly impressed with their seriousness—so much so that one day she sat down and wrote the following story. We reproduce it,



unedited not only because our young readers will enjoy it but because our older readers will also appreciate the immediate constructive reaction the sight of the fire had on the mind of this child, which she expresses so thoughtfully in childish fairy lore:

The Story of the Forest Fairies

By GRETCHEN BROWN

One bright and sunny day, the little forest fairies saw four people come into the woods, or forest, with large baskets in their hands; they evidently were going to have a picnic lunch.

There was a man, woman, boy and girl, and they seemed to be very untidy, so the forest fairies did not like them very well from the first.

At lunch time the man lit a fire and cooked some kind of meat, then they all sat down and ate like (well the forest fairies just didn't know what to say they ate like). After they had finished their lunch they went home and what do you think? They left their fire burning. Wasn't that awful? The forest fairies rushed around trying to get it put out but they were not large enough, and pretty soon the whole forest was on fire and the forest fairies had to rush out of their homes and go to a new forest. But some of the fairies would not go away and so they stayed. After a long time some men came and tried to put the fire out but they could not do that so they only stopped it from going any farther. The whole forest burned down and some of the little forest fairies were killed but those that escaped never, never, never, let any one come into that forest again.

California Cigarette Throwers Fined

Four convictions have been secured by State Forester M. B. Pratt under the new law forbidding the throwing of burning tobacco from automobiles. In each case the fines have been ten dollars.

An attempt is being made to have included in the State Motor Vehicle Law, a requirement that every machine be equipped with a receptacle for matches and burning tobacco.

Allegheny Foresters Hold Successful Meeting

One of the most successful meetings yet held by the Allegheny Section of the Society of American Foresters was that last month at Elkins, West Virginia. Beginning July 21, the meeting extended over four days, during which time many interesting forest projects in the State were visited. On July 22 a trip was made to Minnehaha Springs, stops

being made en route in the Monagahela National Forest, at the tannery at Durbin and at Cass where lumber and pulp operations in spruce are being carried on. On Friday the meeting visited one of the State Forests and an interesting hardwood operation. On July 24th the operations of the West Virginia Pulp and Paper Company were visited. About fifty foresters were in attendance at the meeting.

Connecticut's Burning Problem

Held under the auspices of the State Park and Forest Commission, the State Capitol in Hartford, Connecticut, was recently the scene of an important conference seeking to control the dangerous fire hazards now existing in the "Nutmeg State." An inadequate system of fire lookouts and special patrolmen, a lack of sufficient high power forest fire pump equipment and the absence of legal means of co-ordinating local fire fighting companies with the state forest fire warden system were the chief points discussed.

Open to the public, many organizations were represented by official delegates, among them the State Grange, Farm Bureaus, Lumbermen's and Forestry Associations and State Firemen's Association.

New Jersey Develops New Fire Poster

The figure of a forest ranger, armed with a shovel and on his way to a flaming forest in the background, glares at you from a fire poster put out by the New Jersey Department of Conservation and development. At the bottom of the poster are the words:

"He Stops 'em—

What do YOU do?

NEW JERSEY FOREST FIRE SERVICE

The poster is designed for indoor use. It strikes at forest fires from a new quarter and has been widely commented on throughout the State.

Beetle Losses Heavy in Oregon and Washington

Enough beetle survey work has been done in Oregon and Washington the past five years to justify rough estimates of the average annual insect loss in yellow pine. At least 90 per cent of these losses are due to the work of the western pine beetle and the mountain pine beetle with *brevicornis* far in the lead.

The total annual beetle killing in yellow pine for the State is estimated at 403 million board feet, a loss of nearly \$1,500,000 in timber values.

The total yellow pine stand in Washington including all classes of ownership is estimated at fourteen billion board feet. The yellow pine area is probably about 2,000,000 acres. The annual beetle killing in yellow pine for the State of Washington is estimated at eighty million board feet

with an average value of \$2.75 per thousand board feet, a loss of \$220,000 in timber values.

Telling the World

Forest Ranger Bailey of the Logan Forest District, Pennsylvania, has painted the Department slogan PREVENT FOREST FIRES—IT PAYS on the metal roof of the barn at the Saegar Farm. The letters are eight feet high and the sign is very easily seen and read by travellers approaching the forest along the Stone Creek road. Hundreds of hunters have commented favorably about this unique sign.

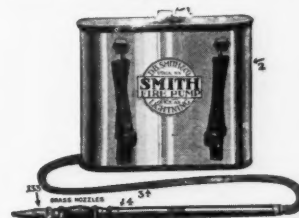
Maryland Conducts New Tree Contest

The Prize Tree Contest, conducted last year by the Maryland Forestry Association created such a state-wide interest in trees that the Association decided to conduct a new contest, on a somewhat different line, that opened new opportunities. Last year five prizes were given for the five most distinguished trees in the State. The contest this year was unlimited as to the number of prizes. An award is to be made for the biggest tree of each species entered in the contest in the form of a beautiful certificate suitable for framing, bearing the name of the winner and the name of the tree.

There are over 150 native species of tree size in Maryland and in addition at

SMITH INDIAN FIRE PUMP

A well built fire pump for long hard service.



For Fighting Forest Fires; Brush Fires; Grass Fires; Fires in Homes; Garages; Farm Buildings; Railroad Freight Houses; Warehouses; Factories; in Fact for Fighting Fires Anywhere.

TO OPERATE: Fill tank with water or any fire fighting solution. Carry the tank on the back like a pack basket, by placing carrying straps over shoulders and under arms. Hold the brass pump cylinder Fig. 4 in one hand and with the other hand on the pump handle, easily work the pump handle back and forth, when the Fire Nozzle, Fig. 153, will throw a long distance stream in any direction desired.

Knapsack Tank holds about 5 gallons. Well made of heavy galvanized steel, or all brass as ordered.

Best grade 1-2 inch 5 ply hose.

Pump made entirely of heavy brass, with brass ball valves. Has no leather valves or packing to wear out. Works with ease, producing a continuous unbroken, long distance stream with slow pumping. Very powerful.

Indian Fire Pump with all Brass Tank, Ea. \$10.50

Indian Fire Pump with Galvanized Steel Tank, Ea. \$8.00

Shipping weight 11 lbs.

Write for folder and prices in quantities

D. B. SMITH & COMPANY
Utica, New York

Fire Signs that Move and Attract

"One picture is worth a thousand words" and a picture in COLOR and ACTION is worth a thousand of the ordinary kind.

Here we have a night scene depicting a raging forest fire. The flickering of the flames in the Scene-In-Action picture flare and sink as though actually fanned by the breeze, lighting up the surrounding scene with vivid, colorful flashes. The smoke rolls upward exactly as it would do in nature, now whirling in mad spirals, now floating serenely.

Just the thing for windows, exhibits, lectures, museums, fairs, etc. Operates from any light socket. Substantial case for reshipping. Nothing to get out of order. Price \$57.00 complete, F.o.b. Chicago.



[The Michigan Press Association recently ordered a hundred for use in their forest fire prevention campaign.]

A Fire Prevention sign that will do the work

Send today for full information

Scene-in-action
CORPORATION

1601-03 SO. MICHIGAN AVE.

CHICAGO, ILL.

least sixty foreign species. A tree of small species such as sumac, red-bud, or dogwood, has in this contest equal chance in its respective class with those of larger species, such as oak, elm, or tulip poplar. Any tree growing in Maryland is eligible, no matter what species and whether native or foreign.

The contest closed August, 1926, and official measurements are now being made and photographs taken by the State Department of Forestry of such trees as indicate high rating. Prize awards will be announced in a later issue of AMERICAN FORESTS AND FOREST LIFE.

Federal Trades Commission Decides Against "Philippine Mahogany"

The first round in the fight of "Philippine mahogany" versus "real" mahogany has been lost by the former. On July 21 the Federal Trade Commission before which the case was heard decided by a vote of four to one that the use of the term "Philippine Mahogany" is unfair trade practice and a deception to the public. The Commission has accordingly rendered a "cease and desist" order against the three shippers which were selected as the respondents in the test case. They are The Indian Quartered Oak Company, of New York, the Jones Hardwood Company, of San Francisco, and the Thos. E. Powe Lumber Company, of St. Louis.

The case is one of long standing before the Federal Trade Commission. By agreement the questions at issue were "Is the wood sold by the respondents as mahogany, such? If not, has the term

'Philippine mahogany' become so universally known that purchasers of the lumber and the products manufactured therefrom are not deceived in the belief that they are purchasing mahogany wood?"

Parties to the case in addition to the three respondents mentioned were the Mahogany Association, Incorporated, and the Philippine Insular Government. The position taken by the Mahogany Association, Incorporated, was that "Philippine mahogany" is in no sense a "real" mahogany, that the public is deceived by the name, and that "real" mahogany dealers are subjected to unfair trade competition. The respondents and their collaborators maintained on the other hand that the term "Philippine mahogany" does not directly or indirectly deceive and that it has been used and accepted for many years as a trade designation for the wood in question, which botanically is a species of Dipterocarpaceae.

The Majority Report of the Commission takes the position that in view of the fact that the several woods sold as "Philippine mahogany" are of species no more definitely related to the true mahogany family than are birch and oak, their designation and sale as "Philippine mahogany" are deceiving both manufacturers and the public.

Commissioner Humphrey, dissenting from the Majority Report, declared that to be consistent the Government would have to stop the use of such terms as "African mahogany," since these woods are not botanically of the mahogany species.

The Commissioner further questions the authority of the Federal Trade Commission to render decisions overturning those of other government departments or courts, maintaining that it should base its decisions upon what has already been prescribed and in accordance with actual commercial and trade practices.

The Philippine Mahogany Association has served notice that it will appeal the case to the Court of Appeals of Southern New York.

New Measure Proposed Against White Pine Blister Rust

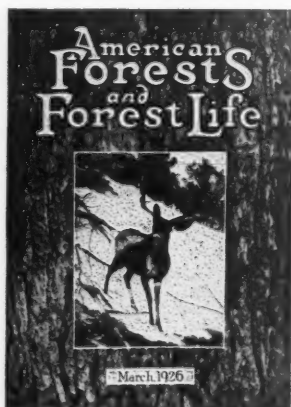
Tentative quarantine measures involving the entire Continental United States on account of the white pine blister rust disease have been drafted which embody the restrictions discussed at the public hearing before the Federal Horticultural Board. Copies of the proposed quarantine are being distributed by the United States Department of Agriculture to all interested parties for further comment before the measure is handed to the Secretary of Agriculture for approval.

The proposed quarantine would replace all existing blister rust quarantines and is effective September 1, 1926. This measure prohibits or restricts the movement of five-leaved pines and currant and gooseberry plants from any State.

White pine blister rust, brought to the United States from European countries in 1900 on white pine planting stock, is a very destructive disease of that valuable timber tree. The rust passes one stage of its life on the white pine tree and another on the leaves of currant or goose-

NOMINATE YOUR FRIENDS FOR MEMBERSHIP

Fill in the last line and mail the Application blank to a friend. He will appreciate the courtesy



American Forests and Forest Life is sent monthly to all except Annual Members

Application for Membership in the American Forestry Association

Date.....

The AMERICAN FORESTRY ASSOCIATION

1523 L Street, N. W., Washington, D. C.:

I hereby apply for membership in The American Forestry Association and enclose

INDICATE CLASS OF MEMBERSHIP DESIRED

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| <input type="checkbox"/> Subscribing membership, per year, including Magazine..... | \$4.00 |
| <input type="checkbox"/> Contributing Membership, per year, including Magazine..... | 10.00 |
| <input type="checkbox"/> Sustaining Membership, per year, including Magazine..... | 25.00 |
| <input type="checkbox"/> Life Membership (no other dues for life), including Magazine..... | 100.00 |
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Canadian Postage 25c extra; Foreign 50c extra, on Subscribing Memberships

PLEASE LETTER OR TYPE NAME AND ADDRESS

Name

Street

City and State

Business or Profession.....

Nominated by

September, 1926

berry bushes. It does not attack any other species of plant and cannot go directly from pine to pine without an intermediate stage of development on currant or gooseberry bushes. The rust is only moderately injurious to currant and gooseberry plants, but on the five-leaved pines it is capable of killing trees of all sizes and is especially destructive to young growth.

Fire-Watershed Protection

A giant California redwood, 24 feet in diameter, is "padlocked" as a result of a raid conducted by prohibition agents.

The tree, six miles up the Bear Creek trail from Dyerville, Humboldt County, was found to be housing a 5 gallon still which was running full blast when the officers came upon it. Eight 50-gallon barrels of mash were alongside the still, which was operated with kerosene as fuel.

Woodsmen had hollowed a spacious cavern from an opening started by nature when the base of the trunk was split. The entrance to the cavity was concealed by a painted curtain and camouflage bark.

Louisiana Reforestation Legislation

The constitutional amendment dealing with reforestation and fathered by Senator Henry E. Hardtner, of the Urania Lumber Company, passed the Louisiana House, July 6, with only three opposing votes. It had previously passed the Senate and will be submitted to popular vote this fall. The amendment authorizes the police juries of the parishes to make reforestation contracts for first-year terms, to fix by agreement the rate of taxation for the land thus placed under contract through the tree-growing period, and fixes at 6 per cent the severance tax to be collected on the timber when it is severed from the soil. Following the session's adjournment, Mr. Hardtner issued the following statement:

"..... The State of Louisiana, from my own experience, is able to grow pulp stock more rapidly than any other State in the Union, and the constantly diminishing wood supply of the nation gives this State the extraordinary advantage for this industry."

Aerial Mapping in Canada

Aerial photography is proving of substantial aid in the development of natural resources.

In Alberta, Canada, during the past year over 8,600 square miles of territory were successfully photographed—an equivalent to a strip ten miles wide extending from Winnipeg to Edmonton. The work was carried on by the Topographical Survey, Department of Interior, in connection with the Royal Canadian Air Force.

The photographs show in great detail all the features of the ground, the exact areas and boundaries of bush lands, swamps, sandy areas, the courses of rivers and streams with their innumerable

Forest Service Steel Towers

This illustration shows a galvanized steel tower erected by the U. S. Forest Service on Promontory Butte, Sitgreaves National Forest, Arizona.

The tower, which is 110 feet high to the floor of the house, was designed and made by Aermotor Co., Chicago.

The well guarded stairs and the frequent landings make this high tower safe and easy for any one to climb.

The Aermotor Co. makes the best types of towers for forest protection and other purposes.

Write for their new Bulletin on Forest Service Towers

AERMOTOR CO.

2500 Roosevelt Road
CHICAGO, U. S. A.



Photo. by R. E. Marsh. Courtesy U. S. Forest Service

P. T. COOLIDGE

FOREST ENGINEER

TIMBER ESTIMATES AND VALUATION
LOGGING PLANS TOPOGRAPHIC MAPS

31 CENTRAL ST., BANGOR, MAINE

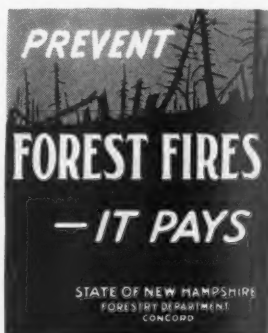
The John P. Van Orsdel Co.

Forest Engineers



CRUISING : VALUATION
TOPOGRAPHIC MAPS
RAILROAD LOCATION
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CONSULTING SERVICES

SEATTLE



DO YOUR BIT~

Toward eliminating the fire evil. Attractive signs prominently displayed throughout the forest will remind the careless of the danger of fire. Let us supply you with signs that carry a forceful message. Used and endorsed by the forestry departments of 36 states.

National Printing & Engraving Co.

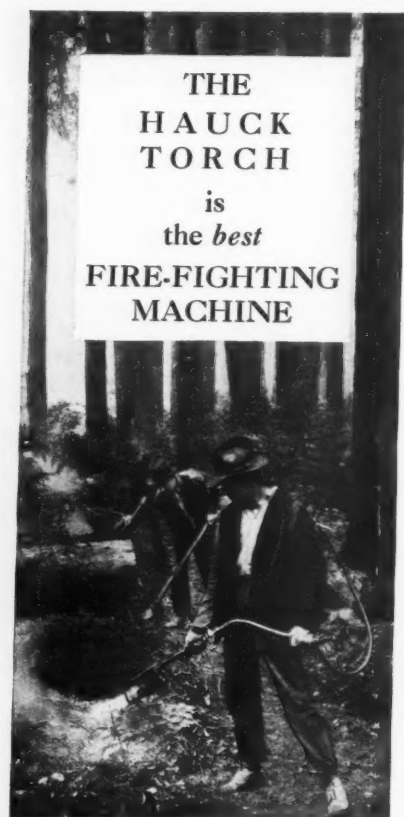
ROOM 1512

7 S. DEARBORN ST.

CHICAGO, ILL.

These signs are on a heavy water proof fibre paper stock, with reinforced edges for tacking. They will withstand weather for more than six months.

Send for prices and samples



The efficient fire fighters of North America, Europe and the Eastern hemisphere say—

"nothing has been found to equal the HAUCK TORCH."

"It is approved for firing slash and brush piles because it reduces the fire hazard. One man can fire a dozen piles of slash and brush when material is wet, in less time than it would take ten men using some other means."

HAUCK MANUFACTURING CO.

126 Tenth Street, Brooklyn, New York
Pacific Coast Branch and Warehouse:
296 Second Street, San Francisco, Cal.
Canadian Representatives:
Watson Jack & Co., Ltd.,
Power Building, Montreal, Quebec

The makers of
Ipana Tooth Paste
believe in protect-
ing and preserving
forests as well as
teeth and gums.

IPANA TOOTH PASTE

BRISTOL-MYERS Co.
40 Rector Street New York

able windings and the roads and other features of importance. The surveyor, without the use of the photographs in previous years was able to examine and map on the average 600,000 acres each season. With the aid of the photographs this party completed 1,178,000 acres or an increase of 96 per cent. Not only were the results more complete and detailed, but the photographs are still available for rendering similar service to the forester and others interested in the development of the district.

In connection with this aerial survey, two others were made; one of the Saskatchewan River valley, the other of the Buffalo Park at Wainwright, Alberta. Both were successful.

Alaska Cutting Railroad Ties

Tie cutting for the Alaska Railroad on the Chugach National Forest is now in full swing. One hundred thousand sawn hemlock ties are being cut on Knights Island, in the Prince William Sound Ranger District, and are being delivered to Seward, the ocean terminus of the Alaska Railroad, by barge.

Sixty-five thousand sawn and hewed ties are being delivered along the right of way of the Alaska Railroad in the Anchorage Ranger District. About forty per cent of these will be sawn. No spruce material has been contracted for this year.

Important Conference on Land Uses

The Federated Societies on Planning and Parks, consisting of the American Civic Association, the National Conference on City Planning, the American Institute of Park Executives, the American Park Society and the National Conference on State Parks, announce for December of 1926, an important conference on Land Uses.

Civic leaders and public officials from the forty-eight States of the Union will be invited to discuss methods of acquiring, administering and disposing of State-owned lands. The provision of proper buildings and grounds in State Capitals and cooperation between State and municipal officials in the layout and zoning of State Capital cities will be considered. In fact the whole problem of publicly-owned land—Federal, State and local—will be opened for discussion.

With the exception of the administration of National Forests and National Parks, the United States has not developed a Land Policy in administering its vast holdings throughout the country. It is pointed out that the pertinent facts should be made public and a sentiment developed which will insure the adoption of a business-like policy in the management of public lands in this country.

Effective land policies are invariably dependent on intelligent planning. We have had city planning, a little regional

planning and piece-meal national planning, but so far we have not developed comprehensive, coordinated land planning for the city, and state and nation. Let us apply the fundamental principles of planning to the problems which confront us.

North Carolina Forestry Association to Hold Annual Meeting

Main subjects of discussion at the Sixteenth Annual Convention of the North Carolina Forestry Association which will be held this year at Morehead City, September 2nd and 3rd, will be the equitable taxation of forests and more adequate protection of forests from fire. A legislative committee will be appointed to present the suggested legislation to the General Assembly of 1927.

State Parks and National Parks in North Carolina also will be considered, and those attending the convention will have an opportunity to visit Ft. Macon State Park. Special delegates are being appointed from the counties and cities, and the Association extends a cordial invitation to all others who are interested in the forestry problems of the State to attend the convention.

New Forest Experiment Station Begun

Actual work of developing the Upper Peninsula Lake States Forest Experiment Station on a site recently given to the Federal Government by the Cleveland-Cliffs Company and located about seventeen miles east of Marquette, Michigan, is now going forward. It is expected that within a few weeks the temporary structure which will serve as summer headquarters will be constructed and actual work on experimental forest plots begun.

Those Playful Lightning Fires

The kind of entertainment which is dished out to some smoke chasers in North Idaho when a lightning storm strikes in an inaccessible territory is graphically pictured in the following story told by the ranger in one of these districts.

Late one July evening last year the Smith Peak foreman returned from one fire, and the next morning he and the alternate started out to search for a fire which the latter had not been able to locate the day before. They traveled alone to cover more country. The Smith Peak man found the fire and put it out. On the way back he discovered another fire covering about 2½ acres on a steep slope. He had worked on the fire about an hour when the wind swept it into the crowns. He was nearly caught in the fire and had to spend over an hour under a rock in a small creek to keep from being burned. In the meantime, the alternate had discovered another fire, and had it nearly controlled when the wind swept it into the crowns and it was gone. The alternate

was nearly caught in this fire, and did lose his smoke chaser outfit and most of his clothing. The two fires burned together the same day, covering an area of several hundred acres. The fire was brought under control ten days later, after burning over 1,050 acres.

Virginia Conservation Commission Organizes

The Virginia Commission on Conservation and Development, recently created to take over all state activities dealing with forestry, parks, geology, water power and advertising, formally organized and held its first meeting last month. The members of the Commission are William E. Carson of Riverton, Coleman Wortham of Richmond, E. Griffith Dodson of Norfolk, Thomas L. Farrar of Charlottesville, J. P. Fishburne of Roanoke, Rufus Roberts of Culpepper and Lee Long of Dante.

At its initial meeting the Commission listened to a report from the Director of Water Power, the State Forester and the State Geologist, all of whom represent agencies that come under the control of the new Commission. Mr. M. O. Fippen has been selected as the permanent Secretary of the Commission and will establish his office in the Capitol Building at Richmond. Mr. Fippen has had long training and experience in the administration of scientific work. He was formerly connected with Cornell University and for the last two years has been Director of the Agricultural Experiment Station of Haiti.

Who's Who Among Our Directors

(Continued from page 552)

R. Y. Stuart, the latter, the present head of the Department of Forests and Waters, as Governor Pinchot has called the reorganized forestry department. While serving with Mr. Pinchot he was named on many important committees, one to revise the curriculum of the State Forest School at Mont Alto, and make it a four year course, and to draw up a building program for the school. He has collaborated in the preparation of several of the publications of the Forestry Department, notably the outing booklet "In Penn's Wood," and the public use maps of the State. He has collaborated with Professor J. S. Illick in locating and photographing noteworthy and historic trees and tree places throughout Pennsylvania and has travelled with him all over the State for this purpose, and is an authority on the history and folk lore of the early forests, and wild life of the State. As a tribute to his zeal for forestry education he was selected to de-

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This type of marker usually sells for five dollars and is by far the best we have ever offered.

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\$5.00 for 5,000 lb. bags, \$18.00 per ton.
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liver the oration, and lay the cornerstone of the new forestry building at Mont Alto, on January 15, 1926. He has lectured on forests and forest lore in many sections of Pennsylvania and is a special lecturer at the Mont Alto School. He is a member of the Pennsylvania Forestry Association, serving on its finance committee since 1916, an associate member of the Society of American Foresters, Allegheny Section, and since 1924 has been a member of the Board of Directors of The American Forestry Association. In addition to being a member of the Pennsylvania Forest Commission, he is a member of the Pennsylvania Geographic Board, and Chairman of the Pennsylvania Historical Commission. He is a Lieutenant Colonel, General Staff, Officers' Reserve Corps, United States Army, an officer or director in numerous banks and industrial corporations, and President of the Altoona (Pennsylvania) Tribune. He resides at "Restless Oaks," McElhattan, Pennsylvania, on the estate belonging to his maternal ancestors since 1770.

New Jersey Makes Two New Forestry Appointments

E. B. Moore and J. B. Allen have been appointed by the New Jersey Civil Service Commission to the Forestry Division of the Department of Conservation and Development on recommendation of State Forester C. P. Wilber. Both men began their duties on July 1.

Mr. Moore, a native of New Jersey, in addition to being a graduate of the Michigan Agricultural College and the Forestry School of Yale University of 1926, has had several years of experience in logging in the big woods of the West. He succeeds Mr. E. L. Scovell, who has resigned as Assistant State Forester to take up the work of extension expert in forestry at the State Agricultural Experimental Station. Mr. Moore's headquarters are in the State Office Building, Trenton.

Mr. Allen, a graduate of the Pennsylvania State College School of Forestry 1926, has taken up the duties of Ranger on the Stokes State Forest.

Forestry Department for Purdue

Purdue University is to have a new department of instruction, that of forestry, according to announcement made by Edward C. Elliott, president of the university, and Professor B. N. Prentice, of the biology department, who will be head of the new department. The department will come under the direction of the school of agriculture and the agricultural experiment station.

Professor Prentice has assumed his duties and has started forestry experimental projects on a forestry farm near Farmland, Indiana. The forestry farm originally was

given to the university for experimental work in agriculture and forestry.

The creation of a new department will mean a decided expansion in the scope of instruction offered in order to meet the demand for a course in this subject. In addition, experiments will be undertaken on plans to aid reforestation work in Indiana.

Gray Squirrels Chattering Again in Yosemite

D. D. McLean, one of the nature guides in the Yosemite, reports that two gray squirrels were seen in Bridalveil meadow and five or six have been discovered around the Aspen valley checking station.

In 1922 a disease overtook most of their race and pretty nearly wiped them all out. It would appear, however, that a few survived to carry on the clan.

South Jersey Forestry Exhibit Attracts Attention

One of the centers of attraction at the South Jersey Exposition, Camden, is the booth occupied by the exhibit of the State Department of Conservation and Development. This booth is of a unique construction and, by the means of miniature stage settings and an ingenious arrangement of electric lights, the story of the Department's work is graphically told.

One of the sections of the booth is entirely devoted to the work of the State Forestry and Forest Fire Service. The tale of the forests is portrayed by a series of five miniature stage settings. The first setting is a beautiful view of a typical South Jersey virgin forest with the bright sunlight gleaming through the boughs of the pine trees. Next the same forest is shown with two careless picnickers leaving the glowing embers of their camp fire. The third setting depicts a forest fire, the result of carelessness on the part of the picnickers. Here may be seen the heroic work of the fire wardens battling a ground fire and through the tree trunks in the distance, the main fire is seen steadily eating its way through the timber. The next setting is a moonlight scene with the charred trunks and stumps of what was once the virgin forest silhouetted against the sky, and the last scene shows the State foresters at work reclaiming the destroyed forests.

Florida Booms Forestry Too

An Act has been passed by the last session of the Florida Legislature making unlawful the setting of fires in the Everglades Drainage District; providing the appointment of a chief fire warden and two assistant fire wardens, who shall have control over all matters pertaining to the protection from fire of all lands lying within the Everglades Drainage District and fixing the compensation of the fire wardens and his assistants, and providing

for the employment of deputy fire wardens and defining their duties, powers and compensation.

Teachers Adopt Forestry Resolution

It is encouraging to note that the teachers of Vocational Agriculture in conference at Nashville, recently, included the following clause in the resolutions framed and adopted by them: "We believe that our forests should be preserved, protected and renewed, and we pledge our cooperation to the State Division of Forestry to do all we may be able."

Conference To Adjust Superior Forest Differences

At the suggestion of Chief Forester, Colonel William B. Greeley, Secretary Jardine has approved the holding of a conference in Minnesota during the first week of September for the purpose of adjusting the controversy which has arisen in connection with certain road building and management plans adopted for the Superior National Forest.

Local opposition has developed over certain Forest road projects which it is asserted will have an important effect upon the recreational management of the forest as a wilderness area and the general plan of management recently approved by the Forest Service does not wholly meet with the approval of local individuals and organizations, including the Izaak Walton League and the Superior National Forest Recreation Association. It is announced that Colonel Greeley plans to go over the situation on the ground early in September and to invite all interested citizens and organizations to attend the joint conference at which the points at issue may be thoroughly gone into and adjusted.

Choctaw Indians Were Early Conservationists

"As early as 1842 the Choctaw Indians had a written law for saving certain nut trees in the old Choctaw Nation," writes Muriel H. Wright, of Olney, Oklahoma, who is preparing a historical sketch of the Choctaw Nation. "This law was passed by the Choctaw tribal council, and published in one of the earliest authorized codes, before the Civil War. It was as follows:

"An Act declaring the punishment for cutting down hickory and pecan trees for the nuts.

"Section 8—Be it enacted by the General Council of the Choctaw Nation assembled, That no person or persons shall cut down hickory or pecan trees for the nuts in this Nation; and the persons so offending shall be liable to a fine of two dollars per tree, and one half of said fine shall go to the informer and the other half shall be as district funds.

"Approved November, 1842."

"I would be interested to know how

many of the states on the western frontier had laws for the protection of trees, for any reason, at that early date."

One of the oldest forest measures passed by any middle western or western state is, so far as we know, that of Illinois, passed February 9, 1874, and authorizing the Board of Supervisors and County Commissioners of any County of the State to offer a bounty of not to exceed \$10 per acre per year for a period of three years to persons planting trees on their lands.

New York Imports Roumanian Lumber

Reports from various lumber manufacturing regions throughout the country reveal concern over the extensive importation of Roumanian lumber through New York. Inquiry reveals that 4,000,000 feet of European spruce and true fir lumber have recently arrived here from Roumania and been sold. Another shipment of 4,000,000 feet is now on the Atlantic.

There is no duty on lumber and this foreign product is being sold in New York City cheaper than any domestic lumber is offered. While somewhat concerned over the price competition and the intrusion of wood from the other side of the world into this market when much low-grade domestic lumber is unable to find a market on account of the distance of the mills from consumers, with resulting waste of forest material, lumbermen are used to

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Feed the birds NOW and have them with you all winter.

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No. 1 to hang from tree or bracket.

For smallest home or largest estate. Every home should have several.

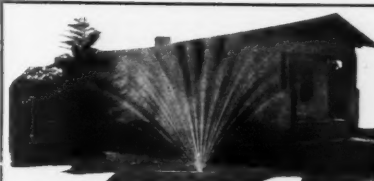


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For window casings, porch columns, etc.

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Lawnsprayer Square Spray Sprinkler

distributes water uniformly over a large SQUARE AREA, reaching the CORNERS OF LAWN without flooding sidewalks and wasting water. Made of cast brass. Price \$1.25 postpaid. Money refunded if not satisfactory. LAWNSHOW MFG. CO., 727 Tennessee St., VALLEJO, CALIF.

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"Buffalo" Portable Fencing sections combine the advantages of a sturdy permanent fence with one that can be moved at will. Set up in a few minutes by merely pushing the legs of each section into the ground, one person can fence off a yard with "Buffalo" Portable Fencing in half an hour's time. No post holes to dig, no staples or wire stretcher. A durable unswaying fence for rotating dog or poultry runs. Trial Assortment No. 1-A consisting of 5 sections 7 ft. long x 5 ft. high, 1 section 4 ft. 6 in. long x 5 ft. high, 1 gate 2 ft. 6 in. wide x 5 ft. high will be shipped to you on receipt of check, money order or New York draft for \$26.10 (F.O.B. Buffalo, N. Y.) More sections can be added as you need them. Send for booklet No. 78-N, from which you can make up your own assortment to suit your own requirements.

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Pruning Made Easy

There is no task to tree trimming when you use a Bartlett Jointed Compound Lever Pruner—because it is jointed. The Bartlett comes in four foot sections that can be easily and quickly locked together to give you a trimmer of the desired length. With a Bartlett Jointed Trimmer you can reach high limbs without using a ladder and you can always snip the low branches from the proper angle.

The cutting head has a COMPOUND LEVER that will sever with ease branches up to 1 1/4 inches in diameter. The blades are made of crucible tool steel and only the best materials are used throughout.

Expert horticulturists everywhere endorse the Bartlett Tree Trimmer.

We also furnish this tree trimmer with one piece pole if desired, as well as making a complete line of Hand Pruners, Lopping Shears, Pruning Saws and other fine cutting tools.

Prices of Jointed Pruner

8 ft. 2 sections wt.—5 lbs.	\$6.60
12 ft. 3 sections wt.—7 lbs.	7.40
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Remember the Jointed Pole requires only four feet of space for storage.

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seeing foreign lumber in this market after twelve years of free trade.

The spruce and fir lumber of Roumania is in common use in the Levant, the Mediterranean countries, and is not unknown in western Europe, but it is never used in those regions for permanent buildings, but rather for temporary structures and such industrial uses as box manufacturing. It is excellent lumber for the use it is commonly put to in Europe. It is well-manufactured, thoroughly seasoned, and has a good appearance.

Plans For Memorial Parkway in Progress

On September 17, at Francis' Tavern, New York City, articles of incorporation of the Washington Highway Federation will be signed and submitted to the Congress. The objective is to advocate and promote the establishment and maintenance of a memorial parkway.

Duluth Has Forestry Club

Representatives of civic and community organizations interested in reforestation recently met at Duluth, and organized a forestry club. Rodney Paine, Superintendent of the Duluth Park system, is President; C. S. Lind, District Fire Ranger, Vice President and William Matter, Secretary-Treasurer. Dr. Henry Schmitz, Director of the Minnesota Forestry School and Governor Theodore Christianson addressed the meeting and promised cooperation in furnishing reforestation stock and in perfecting the State Forest Fire Protection system.

Airplanes Used to Fight Forest Insects

In an effort to save the forest hemlock in the Peninsula Park, Wisconsin, from destruction by forest insects, the State Conservation commission last month resorted to the use of airplanes to powder the forest with calcium arsenate. Seven tons of the chemical were used and the trees were given a treatment which it is hoped will halt the work of the insect.

C. L. Harrington, Superintendent of

Forests and Parks, in speaking of this novel use of the airplane, said: "The worm that attacked the hemlock in the Peninsula Park is called the 'hemlock spanworm.' Last year they defoliated a great number of trees in the park, two hundred thousand feet of merchantable trees having been killed; also a countless number of small trees. They appeared again this year in numbers and inasmuch as there is a considerable amount of hemlock in the park we felt that it would be advisable to attempt to dust the trees and arranged with the Decatur Air Craft Company of Decatur, Illinois, to send an airplane up here. We furnished the calcium arsenate used on the job and the dusting was done in the middle of July.

"We have not had full opportunity to check up the results but from what I saw of the flies and of the dusting, I would say that it was pretty successfully done and looks like a reasonable plan for the handling of insect pests of this sort on special areas."

Hemlock Grove Will Be Saved

The famous hemlock grove in the New York Botanical Garden will be maintained and protected for future generations under a plan which has resulted from a three-year investigation by a special committee from the faculty of Columbia University.

Natural regeneration will be helped along by the planting of seedlings each year. There are more than 3,600 hemlocks in this grove which is characterized by many who have seen it, as the most precious natural possession of the City of New York. It is unique among the botanical gardens of the world.

The Yale Forest School, New York State College of Forestry and the Department of Forestry at Cornell University are co-operating in this effort and it is understood that the Ecological Society of America is also interested.

Joint Annual Meeting

The Empire State Forest Products Association plans to hold its twenty-first annual meeting in joint session with the Wood Utilization Conference October 7-9 at Cornell University. The program will include a discussion of "The Farm Woodlot as a Potential Producer of Timber" and trips to the woodlots and plantations of the University. The three State Parks in the vicinity, Enfield, Buttermilk and Taughannock will likewise be visited.

Connecticut Forestry Association Issues Highway Bulletin

As a result of a Shade Tree Conference, held jointly by the Connecticut Forestry Association and the Yale School of Forestry on February 6, a booklet entitled "Highway Trees and Roadside Improvement for Connecticut" has been prepared

by Mr. P. L. Buttrick, Secretary of the State Forestry Association.

The booklet contains helpful suggestions for the improvement of highway scenery by the planting of trees judiciously selected. It discusses advertising signs, warning signals, telephone wires, gas stations, hot dog stands and wire lines as well as trees, since they are all related to the problem of highway improvement. The bulletin urges more wayside public parks as stopping places for automobilists who dislike trespassing upon private property, or patronizing stands along the road or high-priced tea rooms.

The publication is No. 16 of bulletins issued by the Connecticut Forestry Association. It contains thirty-two pages, with illustrations and may be obtained free of charge through the office of that Association, located at 205 Prospect Street, New Haven, Connecticut.

New Georgia Forestry Officials

Two new officers to have charge of new departments recently established for forestry work in Georgia were appointed at a meeting of the Georgia Forestry Board. Alfred Akerman of Cartersville, Georgia, for the last several years assistant State Forester of Virginia, was elected chief of the new Georgia department of forest management, while E. W. Hadley, of Chipley, Georgia, for the last several years connected with the forest experiment station at New Orleans, Louisiana, was elected chief of the new department of forest protection. Both new departments will be under the supervision of B. M. Lufburrow, State Forester.

The Black Cat Travels to Kansas City

A motor caravan is being organized to carry Hoo-Hoo of the Twin Cities to the 35th annual Hoo-Hoo in Kansas City, Missouri, September 28, 29 and 30.

Thirty automobiles are expected to make the trip—and with every seat occupied. The celebrated Hoo-Hoo Club Orchestra will make merry all the way. Enthusiasm for the trip is running high and committees are investigating the routes, road conditions and other incidentals.

Kentucky Interested in Reforestation

Although Kentucky has only recently reorganized its Forestry Department, it is evident that the interest of the people is alive in reforestation, highway planting and planting trees on school and other property. The Kentucky Forest Service this spring supplied trees to 34 counties in the state and had to refuse other orders because the supply of desirable trees had been exhausted. Nine small reforestation projects used all of the trees available for this purpose, 36 schools ordered 2080 trees for planting on their property, 1375 trees were supplied for highway planting and 570 trees

were planted for windbreaks or other purposes.

Activities at the state forest nursery are now under way to have more seedlings to offer this fall and next spring. Already enough seed has been planted to assure more than a half million trees next year.

Prizes for Forestry Contest in Maine Awarded

Of the twelve hundred essays submitted in the prize contest for the best forestry essay written by a school child of the State of Maine, Aline St. Pierre, pupil of the Sacred Heart High School, won first prize. The subject of her prize-winning essay was "Forests of Maine, Their Protection and Conservation."

Prizes amounting to \$300 in gold were awarded the winning essays in both high schools and grammar schools in each county. In the state-wide contest a first prize of \$25 and a second prize of \$10 for high school entries and of \$15 and \$10 for grammar school contests were offered.

Forestry Meeting in New York

Accepting the invitation of the Department of Forestry at Cornell University, the Empire State Forest Products Association will hold its twenty-first annual meeting at Ithaca on Thursday, October 7. It is planned to make this the occasion for the second State-wide Wood Utilization Conference.

The tentative program promises much of interest and instruction to those attending. An exhibition of equipment, trips to woodlots and State Parks, a luncheon, a banquet, speeches, an informal golf tournament and a football game as *finale* are high spots of the program.

Vermont Forestry Association Holds Forestry Essay Contest

At the close of the school year the Vermont Forestry Association held a forestry essay contest among the eighth grade pupils of the State. The subject of the essay, "Why We Need the Forests," called forth interesting ideas from the young forest enthusiasts. The prize essay was written by Dorothy Maw of Island Pond, Vermont. With the aid of statistics and an appeal for the scenic value of forests, she expressed conclusively our "Need for Forests."

Wood in Automobile Building

Owing to the extensive use of steel and other metals in automobile manufacture, the impression sometimes created is that wood is a minor element in the modern car. The fact is, however, that the automobile industry is still one of the largest consumers of lumber. During 1923 the latest year for which figures are available, 800,000,000 feet of lumber was used in the construction of truck and passenger



Bark healing perfectly over Davey cement filling. An oak on the estate of Mr. R. T. Paine II, Brookline, Mass.

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A time and labor saver
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Send for one today.

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Native Orchids

The addition of native orchids to your garden will bring a touch of the North woods. We have available a good supply of the following:

CYPRIPEDIUM SPECTABILIS.

The giant Showy Ladyslipper, most elusive and desirable of all Orchids. Will add a distinction not obtained by any other plant. Price per crown, 40c. \$4.00 per 12. \$30.00 per 100.

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The Yellow Ladyslipper, earliest of all the Ladyslippers. Soft yellow. Many flowered. Price per crown, 35c. \$3.50 per 12. \$25.00 per 100.

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Pink Ladyslipper. Old rose in color. Of very easy culture. Price per crown, 25c. \$2.50 per 12, \$20.00 per 100.

HABENARIA PSYCODES.

Purple Fringed Orchid. Tall spikes of lovely lavender fringed flowers in July. 35c each. \$3.50 per 12. \$25.00 per 100.

Any of these are ready for shipment now.

Our 1926 catalog with complete descriptive list of hardy perennials, ferns, fruits, shrubs, roses, evergreens, and shade trees, is free upon request.

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They cannot, in the small space allotted to them, list all of their products, and Members are urged to write to them for complete catalogues.



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LARGE evergreen transplants for quick effects, by the thousands. Our complete lists are ready—but here are some sample prices.

			(100)	(1000)
DOUGLAS FIR	12-18" twice	transplanted	\$35.00	\$270.00
SCOTCH PINE	8-16" once	transplanted	4.00	32.00
"	2-3" twice	transplanted	25.00	240.00
NORWAY RED PINE	18-24" twice	transplanted	50.00	450.00
COLORADO SPRUCE	12" twice	transplanted	35.00	270.00
NORWAY SPRUCE	8-16" once	transplanted	12.00	65.00
"	1-2" twice	transplanted	25.00	
WHITE SPRUCE	7-14" once	transplanted	8.00	48.00
"	12-18" once	transplanted	12.00	65.00
HEMLOCK	6-10" twice	transplanted	20.00	150.00

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car bodies alone. In that year about 4,000,000 cars were built. In 1925, the output amounted to 4,325,000 cars and trucks and of these about 60 per cent were closed cars; indicating a fact readily observed that the production of closed cars is steadily increasing in proportion to the total output. Representative automobile builders estimate that the number of closed cars for 1926 will be from 60 to 70 per cent of the total output.

Penn State College to Hold Portable Saw Demonstration

Announcement is made of a third Portable Sawmill Demonstration to be held at the Pennsylvania State College, October 25 to 28 inclusive. Several new features are planned. Instruction in filing and fitting saws and in estimating wood-lot timber will occupy a prominent place in the demonstration as well as sawing for grade which was demonstrated at the previous meeting. In addition to an electric motor demonstration, a steam unit and one or more types of so-called industrial units will be used.

A Tree Lover Abroad

"Everyone interested in trees must derive much pleasure in seeing the remarkable growths and beautiful specimens noticeable in this mild climate," writes Frederick W. Kelsey, of New York, from Lausanne, Switzerland. Tree culture here has reached a degree of perfection. Many of the more rare varieties not hardy in the Central and Northern portions of the United States attain here and along the upper side of Lake Geneva magnificent proportions.

"For instance, along the parkway Quay by the Lake and in the beautiful Hotel Park fronting on the Lake are some of the finest Sequoia, or Wellingtonia as they call it here—to be found, I believe, anywhere this side of the celebrated groves of these great trees in California. Two grand specimens immediately in front of the Hotel measure one foot above the ground, 20 feet and 22 feet in circumference respectively, each of proportionate height, and of surprising beauty from all sides. These trees, it is reported, were planted where they now stand more than 100 years ago.

Three *Cedrus Libana*—the beautiful Cedar of Lebanon, also in the Park here, measure 15 feet, 15½ feet and 16½ feet circumference—all stately in form and as symmetrical as if trained by the hand of man. *Auricaria Imbricata*—monkey tree—in perfect form 20 feet high; grand specimens of *cedrus Atlantica glauca*—silver-leaved Cedar; *Magnolia Grandiflora*—now in flower—and other rare and beautiful varieties not successfully grown north of Richmond are hereabouts grown in perfection.

Many of the trees and flora, hardy in the northern states are of course used largely here for general planting, and for forestry purposes. The extent to which the Horsechestnut is used South of the English Channel and its special adaptability for full development here on the Continent in contrast to its comparatively limited use in the United States is a point of interest. In Paris the extensive use of this tree is noticeable everywhere. In the Luxembourg Palace Park—claimed to be the most attractive example of the gardening art in that attractive city—the double, triple and quadruple rows of these trees in front of the Palace and large thickly planted groves—many of the lines of trees being trimmed and clipped into solid form—constitute one of the features of the park. The same impressions occur in motoring to Fontainebleau from Paris where the double rows of Horsechestnuts and a few other varieties are an appealing object lesson in Parkway and street decoration—not attracting so much attention in our country. The care of the street trees in Paris is another object lesson that may be well heeded and followed in the United States. A circular depression of six or eight inches, 3 to 4 feet in diameter of each tree is left open in the pavement. During the night in dry weather these holes are readily filled with water by conveniently located hoses, handled by two men. The result everywhere is manifest. The trees flourish and excepting on the Avenue Champs Elysees where gases have injured many trees, Paris remains in summer one of the most interesting and attractive of all cities. I have not yet had opportunity to look into the

forestry conditions as they appear to a layman—here in Suisse or in France, but hope to give this subject some attention on my return to Paris in August, before sailing for home, August 28th. The French Government through the Minister of Agriculture recently purchased almost ten thousand acres of forestry lands in the vicinity of Paris, and 3,750 acres near Versailles, while the famous Bois de la Commanderie, near Fontainebleau was included in more than 6,100 acres acquired in the Commune of Grez-sur-Loing. Steps are to be promptly taken toward the reforestation of much of this land which has fallen into neglect since the War.

New Organization Formed in Longleaf Pine

A new organization, taking the title of the Longleaf Yellow Pine Manufacturers' Association, was recently formed at Shreveport, Louisiana. A representative group of manufacturers of this species composes the new organization, which will carry on plans for research, promotion and trade extension of Longleaf yellow pine, particularly for standardization purposes.

A secretary-manager is to be appointed and the headquarters will be established at New Orleans. The board of directors and executive committee will be announced at a later date.

Sierra Club Issues Reference Book on the Sierras

The Sierra Club of San Francisco has just issued a book entitled "Place Names of the High Sierra" which has been compiled by Francis P. Farquhar. It contains place names, their origin, significance, etc., as well as references to books, periodicals, etc. There are also biographies of prominent individuals in Sierra history, a list of maps and a list of publications of the Sierra Club. It is printed in two editions one at \$2 and one at \$5, and may be obtained from William E. Colby, Secretary of the Sierra Club, 402 Mills Building, San Francisco.

A Marmot Boxing Match

Marmot Point, on the Paradise Valley Road, is a favorite gathering place for the Hoary Marmot or Whistler. Any day in summer it is possible to see from one to a half dozen of these western woodchucks basking in the sun at the edge of the road or feeding in the brushy swamp just below.

Last week the Ranier Park Naturalist watched two half-grown marmots stage an exciting three-round boxing match at Marmot Point. An old hoary-backed fellow refereed the match. The two combatants stood on their hind feet and slugged each other with both fists. With bears it would have been a slapping match but these marmots exchanged short jabs and punches like professionals. Not only was the boxing and head work good, but they

were also active on their feet. Contrary to the usual procedure each round lasted until one of the other of the contestants was knocked down, then instead of retiring to his corner the winner of the round jumped upon his fallen foeman with all four feet and began worrying him. After a minute or so of this they were on their feet again, and the next round was under way.

One of the truck drivers reported watching a similar match a few days later. Apparently boxing is a favorite sport among marmots.

The Mountain Stream

Its roar was like the ocean,
And the song it sang to me
Was drowsy and compelling
As the twilight and the sea.

Its smell was sweet and spicy
As the woodland hills it knew.
Its waterfalls were diamond
And its shadows sapphire blue.

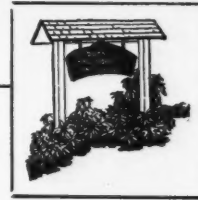
Its song was weird and mystic,
Like the mountain tops at night—
A melody of shadows
In the moonshine's opal light.

It twined among the aspens,
And they quivered at its song,
And flowers like a carpet
Edged the path it sped along.

Above, the birds were singing
In the plush of every tree
And squirrels frisked and chattered
In the branches over me.

And, far below, the meadows
Glowed like emeralds in the sun—
A living gem of tribute
To the work the stream had done.

—Martha Coleman Sherman.



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Tie Convention Proceedings Available

Copies of the proceedings of the eighth annual convention of the National Association of Railroad Tie Producers, which was held at Cleveland, Ohio, last January are now available at \$1.50 each, postage paid. The proceedings this year contain 104 pages and should prove of interest to any one engaged in any phase of the cross tie industry.

New Tree Booklet for Pennsylvania

Supplementing the first edition of "Common Trees of Pennsylvania" by Joseph S. Illick—an edition of five thousand copies which was exhausted in less than a year—a second edition, revised and enlarged, has just been issued. Designed to be a handy pocket manual of the common and introduced trees of Pennsylvania, this handbook should open a pathway for the delightful study of trees and help create among the citizens of Pennsylvania a friendly attitude toward the great outdoors. The booklet is printed and distributed by the Times Tribune Company, Altoona, Pennsylvania.

Indians Ship Three Hundred Thousand Dollars Worth of Pinon Nuts

Travelers throughout the Southwest have probably not realized the revenue-producing character of the lowly pinon which is certainly not a thing to be admired as a forest tree. The Navajo Indians, however, according to *Earth* for May, 1926, last year shipped \$300,000 worth of pinon nuts which form a well-known article of commerce. The Indians also sold blankets to the value of \$250,000, silver articles worth \$25,000, wool worth \$600,000 and sheep and cattle to the value of \$500,000.

Joins Staff of West Coast Bureau

Reginald T. Titus has joined the field forces of the West Coast Lumber Trade Extension Bureau. Mr. Titus is a graduate of the New York State College of Forestry and taught in the Department of Forest Utilization while taking a Master's degree. During the past year he has been Executive Secretary of the Vermont Forestry Association.

A Portable Mill That Moves By Its Own Power

The Luckiamute Lumber Company of Airle, Oregon, operates a portable sawmill on a type which is said to be entirely unique. It is built on a sled platform on skids and its engines are equipped with drums so that by attaching a rope to a tree it is enabled to haul itself over the ground. It is a double-deck affair with the sawmill machinery on the upper deck. Neither is it of very small capacity, as it will handle a log up to 36 inches in dia-

meter and 24 feet long, and can saw 15,000 to 20,000 feet daily.

A second drum is used for hauling logs up to the mill and hauling them onto the log carriage. There are three Willamette engines in it.

Louisiana Legislature Appropriates Sum For First State Park

The State Legislature of Louisiana has appropriated the sum of \$10,000 to be used in purchasing a tract of 110 acres for a State Park. The site for the park is partly in the Town of St. Martinville, Louisiana and has been selected with a view of preserving the giant live oaks in this section. The State is particularly jubilant over the purchase since it will provide her first State Park.

Michigan Forestry Group Acts

The Michigan Forestry Association, in pursuance of its most useful efforts to restore and restock the great forest areas of the State which were sacrificed during the former years of profligate lumbering, according to *The Jackson Citizen Patriot*, has adopted as a program of major activities this year: The promotion of means looking to the establishment of public responsibility for forest fires; the establishment and development of town forests; and the regulation of Christmas tree cutting, either by license or permit. It will encourage neighborhood association meetings to promote a needed awakening of public interest in reforestation and will sponsor a state wide forestry meeting during Farmers' Week next February at the State College, East Lansing.

Muskrat—Yum! Yum!

Muskrat, lord of the marsh and swamp and small sluggish stream, is good food, according to Dr. Charles E. Johnson of Syracuse University, who has published a bulletin on the study of muskrats in New York State. Fried muskrat, roast muskrat and stewed muskrat are some of the styles in which the flesh of these animals has been prepared for the table. Some day muskrat *en casserole* will be served at a fashionable function and will become a popular item on the menus of our leading restaurants and hotels thereafter. It is recommended, however, that in preparing this food the meat be soaked over night in salt water to destroy the gamey flavor.

The early colonists fried about everything they found in America as a source of food. The muskrat was recommended to the colonies by the Indians and it is recorded that even today muskrats are used in some sections as food. Philadelphia is said to be one of the leading markets for muskrat carcasses on special occasions. Muskrat banquets are sometimes served at gun club functions.



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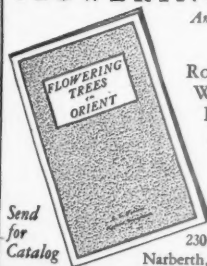
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Big Game Increasing on National Forests

Big game on the National Forests is on the increase according to the annual estimate made by the Forest Service for the year 1925 and recently made public. The figures, which it is pointed out are not absolute but merely estimates made by forest officers who spend a large portion of their time in the woods and make careful observation of the game, show that antelope, bear, deer and elk are all increasing in numbers, while mountain sheep and mountain goats are holding their own.

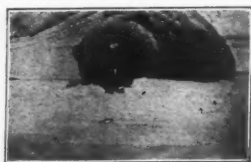
The census shows that approximately 7,500 antelopes are to be found in the National Forests. This is about one-fourth of the total of thirty thousand which the Biological Survey estimates to be in the United States. The increase in antelope is attributed to migration of the antelope from the open lower ranges to the higher mountain regions due to the occupation of the open plain country, where they formerly ranged, by domestic livestock. In the back country the animals are less hunted and better protected, and therefore have a chance to increase.

The total number of black or brown bear in the National Forests in 1925 is placed at 46,286, an increase of some two thousand over the year preceding. Throughout the West the sentiment to consider the brown bear a game animal to be hunted only at such time as the fur is of prime quality has been growing, with the result that some degree of protection is being given this big game animal. A decrease, however, is shown in the number of grizzly bear in the National Forests. The census placed the number in 1924 at 5,624, and in 1925 at 5,593.

Deer outnumber all other big game animals many times over. The 1925 estimate places the number in the National Forests at 606,000, an increase of 55,000 over 1924. Contrary to expectation, the greatest increase in deer was in the state of California in spite of the fact that due to the foot and mouth disease, it was necessary to kill off 22,000 deer on the Stanislaus National Forest. The total kill of deer by local hunters as reported was estimated to be only ten per cent of the herds.

The number of elk on the National Forests was placed at 72,165 as against the census in 1924 of 52,665. In a number of states such as Utah and South Dakota these animals have increased so rapidly that special open seasons have been declared. The Government also has had to take measures to dispose of a large number of elk within fenced game refuges because the animals have so increased in numbers that reduction was necessary to prevent overgrazing and starvation.

The Forest Service attempted for the first time in 1925 to estimate and report the number of beaver in the various National Forests. The figure is placed at 114,000 on all forests, exclusive of those



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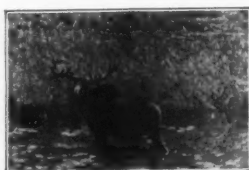
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in Alaska. The forests of Colorado head the list with over 47,000 beaver, and Montana with 15,000 is second.

California Forestry Board Files Liens

On July 30 a number of liens were filed by the California State Board of Forestry against owners of property who had failed to comply with the 1923 compulsory patrol law.

The law requires all owners of timberland to patrol their land or to pay in to the Board of Forestry the cost of patrol.

This is the first time liens have been filed by the Board.

European Larch Excels in New York State

The Conservation Commission unreservedly recommends the planting of larches in the fall. Both species are deciduous and begin very early in the spring to swell their buds. Fall planting is advised in order to avoid digging up the little trees with pickaxes in the frozen ground of the seed beds. Fall planting is also advised by Mr. C. R. Pettis, State Superintendent of Forests, for pines in sheltered locations where the planted trees will not be exposed by winds sweeping off the protective layer of snow. This extends the period of planting very advantageously by about two months in the fall.

Seventeen million trees were shipped out of the State nurseries this spring in 2,240 separate shipments, according to State Superintendent Pettis, and more than twenty million will be available for the public during the planting season of 1926-'27.

Plantations near Fulton, New York, furnish a veritable mine of information on growth of various species. Red, or Norway pine and European larch are outstanding successes. The red pine is straight, vigorous in growth, and without damage by insect or disease. Its branches are pruning off much better than those of the other pines. The European larch is a blue ribbon prize winner. It has outgrown all other conifers, in about 15 years reaching heights of 30 to 40 feet and diameters of 6 to 9 inches. The branches are slender and readily broken by snow and sleet. Perhaps best of all, the wood lasts well in the ground and is regarded as a great friend of the former in furnishing fence posts of good durability. The European larch is decidedly a dry-land tree. Unlike our native swamp tamarack, or larch, it is at home on moderately well drained uplands. A few of the native tamarack may be seen in the plantations, ranking smaller than their European cousins.

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Book News and Reviews



CHILDREN OF THE PINES. By Arland D. Weeks. Lyons and Carnahan, Chicago.

Grace, Hazel and Wesley Lowe are the "Children of the Pines," and the pines are on the shores of Blue Heron Lake in Minnesota where Mr. Lowe has built a summer cottage. With their mother and Uncle Dick, the Doctor Knowall and general workman, the children spend a summer crammed full of interesting experiences. The Lake provides them with swimming, fishing and boating. Uncle Dick takes them in his motor boat to a lath mill situated right in the woods. There is a long automobile ride that provides excitement in the way of dead snakes in the road, a gypsy camp, and best of all a street fair in a small town through which they happen to pass. Later in the summer, spurred on by the stories of Mr. Bill Fisher, an old timer, the family decides to visit the Indian Reservation at Ponsford. Before the summer is up Grace, Hazel and Wesley visit Itasca Park and have the novel experience of jumping over the Mississippi River. They also go on a nature investigation trip and learn all about how forest fires are started and the great harm they do.

The book is delightfully written and well illustrated. The children are real children, and their adventures will undoubtedly bring pleasure to the young readers of "The Children of the Pines."

G. I. N.

The Trade List Annual for 1926

Announcement is made that the Publishers' Trade List Annual for 1926 will be ready for delivery on September 1st, and orders received with remittance prior to that date will be filled at \$4 a copy. After then, it will be \$4.50. The Annual is valuable to any book dealer or buyer, as it supplies in a single collection the latest price lists of all the publishers,—a current catalogue containing all necessary information. Orders are being taken now by the R. R. Bowker Company, 62 West 45th Street, New York City.

TREES AND SHRUBS OF CALIFORNIA GARDENS, by Charles Francis Saunders. Robert M. McBride & Company, New York. \$3, net.

A delightful introduction to the wonders of California's gardens, to which the exotics, shade trees and ornamentals of the world contribute indescribable beauty. The author is a careful student of plant life, and he has written this book in charming style so that it will be a delight even to the native Californian. And it will reveal

to the stranger the glories of the flora of the Golden State. Facts of name, origin and growth are interestingly woven into the text, and the reader unconsciously absorbs many botanical facts together with the history and romance of this colorful land.

L. M. C.

TO MONADNOCK. Gathered by Helen Cushing Nutting. Stratford Press, New York. Price \$2.50.

Between the covers of "To Monadnock," Miss Nutting has ingeniously recorded the writings of three centuries which refer to the famous bald peak—Mt. Monadnock. Apparently she feels a deep affection for the "old fellow" and manages to transfer this attitude to her readers in spite or perhaps because of the fact that her compilation is a long song of adulation to the "King of the Mountains."

Nearly every New England writer of note is represented in this volume. Whit-tier, Thoreau, Emerson and Lowell, all pay homage in verse or prose to the rugged grandeur of the mountain and the marvels of the surrounding country. Likewise beyond the bounds of New England, Mt. Monadnock inspires famous tongues: Mark Twain who lived in the shadow of the soaring mountain for a summer is lusty in his praise of its sensational beauty, writing "it stirs my blood like military music." Rudyard Kipling is similarly impressed.

Aside from the feature of giving extracts from famous men, "To Monadnock" contains droll descriptions of early travels about the vicinity of the lofty ridge. Camping episodes are also set forth and equipment is carefully itemized—so much so that the book would be a useful member of a camper's library.—D. I. C.

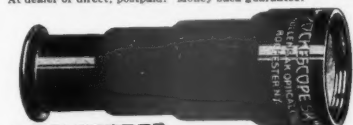
The Story of the Range

"The Story of the Range," by Will C. Barnes, Chief of Grazing of the United States Forest Service, is now available for distribution. It is the testimony presented by Mr. Barnes during hearings held before a Sub-committee of the Senate Committee on Public Lands and Surveys, of the last Congress, and is a complete account of the occupation of the public domain ranges from the pioneer days down to the present. It deals with the effect which unrestricted grazing has had upon the forage and land, and discusses the attempts that have been made to regulate grazing in order to perpetuate the natural forage resources of the open ranges.

The booklet contains sixty pages, includes illustrations and maps which insure its



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clarity and effectiveness, and lists the various literature to which mention has been made. It may be obtained for twenty-five cents a copy from the Superintendent of Documents, at the Government Printing office, Washington, D. C.

New Sierra Publications

A very interesting map has just been published of the Sequoia National Park, including the Expansion area added at the recent session of Congress. It shows the old and the new boundaries, with place-names corrected to July 1st,—roads, trails, streams, lakes and the 500-foot contour lines. There has been quite a demand for such a map and so it was published by Thew, Inc., 402 Sharon Building, San Francisco, where it is available at twenty-five cents a copy, while the supply lasts. This company also recently issued a very beautiful book-portfolio holding 170 views of the High Sierra country, both in and outside of the new outlines of the Park, which was extensively used in Washington as an argument for Park expansion when the campaign for the legislation was under way.

The "Saw Kerf" Makes Its Bow

The official organ of E. C. Atkins & Company, internationally known saw and machine knives manufacturers, entitled "The Saw Kerf" has just issued its first number. A most engaging little magazine, "The Saw Kerf" begins its career with twenty pages devoted to saw news, past and present. The editor announces that it is "published for the friends" of the organization, and will come to them every month.

AMERICAN VILLAGERS, by C. Luther Fry.

Published by George H. Doran for the Institute of Social and Religious Research. With an Appendix on the Social Composition of the Rural Population of the United States, by Luther Sheeleigh Cressman.

Our villages have been described as the "no man's land of American sociology"—the natural result of their location between the city and large farming areas, with the advantages of neither and many of the disadvantages of both. Their decline as a social factor of importance has been more or less an accepted fact. But the author of this book, through careful and most intensive research, shatters this theory and brings forth the fact that villages in the United States are distinctly on the upgrade and increasing in both numbers and population. Many extremely interesting discoveries about our villages have been made by Dr. Fry—one that they are more than 18,000 of them and that they house one-eighth of our total population! This is rather amazing, but undoubtedly true and it proves the village to be a vital factor in our rural situation.

L. M. C.

How Many Steps To A Mile?

It is estimated that the average hunter takes more than 3600 steps every mile he travels.

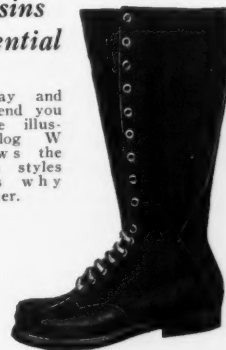
When you stop to realize that 15 miles is not an excessive day's hunt and that in that distance you lift and place one foot in front of the other **54,000 times**, the importance of your footwear is obvious.

There is one—and only one—type of footwear which assures and insures you of absolute foot comfort—THE TRUE MOCCASIN—the shoe developed and worn by the American Indian—the only shoe made in which your foot rests upon a smooth piece of soft upper leather.

BASS MOCCASINS are TRUE MOCCASINS with soles added. They are strong and sturdy, light and flexible—and the last word in comfort.

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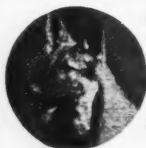
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From Imported Stock. All in fine condition, ready for fall breaking. Color, liver and white. One year old.

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Box 112

Wendell, Idaho.

Forestry Has a Field Day

By W. R. MATTOON

TWENTY years working of a Forest Service planting plan!

Three hundred and fifty people from farms out to see the young planted forests and hear talks about putting loafing acres to work! That is what occurred on the Great Bear Farm near Fulton, Oswego County, New York, as the result of united State forestry activity.

There are many acres of white pine, red pine, Scotch pine, European larch, and native tamarack of many ages and in many different mixtures and spacings. Altogether

The conditions then and now, both as to a source of planting stock and as to opportunity for getting advice on forest planting, make a strong contrast. Small trees at that time could be procured only from commercial nurseries. The people of the State can now count upon the assistance of the Conservation Commission at Albany, which is ready with sturdy little trees at \$2 and up per thousand, excellent publications, and personal advice, and of the New York State College of Forestry at Syracuse and the New York



VISITORS TO THE PLANTATION

From left to right they are: C. A. Taylor, S. L. Strivings, W. R. Mattoon, J. A. Copo, Harry Eppes, F. A. Emerick, H. H. York, W. C. Hubbard, P. D. Kelletter, Representative John D. Clarke, C. R. Pettis and S. N. Spring.

some 400,000 conifer seedlings have been planted on some 300 acres of old farm land since 1906. And the work is still being carried on by the originator of the plan and owner of the farm, F. A. Emerick of Oswego.

Back in 1906 Mr. Emerick got the idea of protecting the lands about his Great Bear Springs by forest planting. Where should he go for advice? The New York State Conservation Commission was not then functioning to any considerable degree in forestry extension, so the Forest Service at Washington was appealed to. As a result Allen S. Peck, then a forest assistant and now district forester at Denver, Colorado, went to Fulton and after a study of local conditions drew up a planting plan. The landowner adopted the plan and has since used it as a guide for extensive plantings. Some revisions have been made by the State Conservation Commission.

State College of Agriculture at Cornell, both with extension departments offering free services.

The visitors at the field meeting were shown a dozen different plantings by well informed guides.

Following the inspection of the trees and a basket dinner at noon, there were talks by the owner of the farm, F. A. Emerick, C. A. Taylor of the Extension Service, College of Agriculture, W. R. Mattoon, representing the United States Forest Service, Hon. John D. Clarke, Congressman of the 34th New York District, and co-author of the Clarke-McNary law, C. R. Pettis, Superintendent of State Forests, Paul D. Kelletter, Director of Forestry Extension, State College of Forestry at Syracuse, and S. L. Strivings, Master of the State Grange.

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In addition to the **pleasure and profit** derived from raising Silver Black Foxes, an added attraction can be had by using part of the ranch for the growing of **beautiful trees and shrubs**.

On my ranch at Sherborn, Mass., I have **fifty-four different kinds of trees and flowering shrubs**, which makes a handsome setting for my choice collection of Silver Foxes.

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35 Pairs of Breeders
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Wausau Foxes

What does "Quality Foxes" mean to you? If it means quality in fur production, quality in reproduction, quality in prolificacy—then you want Wausau Foxes with an enviable national show record. 75% of 70 foxes shown are winners.

Write us for further information
or visit our ranch for comparison.

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ALASKA SILVER FOX FARMS

Highest grade, pure bred, registered, interior Alaska strain. 3 ranches

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The Kind With the Pelt That Pays
ALASKA SILVER FOX FARMS
Lake Placid, N. Y.



Courtesy, Borestone, California

Maine to California

AN arm full of profits, shown here, was photographed on a **California** ranch. Below is a picture of a cross section of a sound business institution in **Maine**.

The owner of these far-reaching undertakings has achieved success.

He is honored by the leading national associations. He is a member of this Bureau.

Like the other members of this Silver Fox Breeders' organization, he is classed as one of the **oldest, highly respected Silver Fox Breeders** who have created standards of fair dealing for this Bureau.

Why raise chickens or pigs because your grandfathers found them profitable? Timidity has closed the door to many opportunities. Your grandfather would raise Silver Foxes today?

City men, living in New York, have fox pens in the suburban home districts of Westchester County. A Boston man planted a little pine forest at the expense of a few dollars and started his ranch in a quarter-acre.

Perhaps you are even better situated to make money in an interesting "Live Stock" undertaking.

To succeed associate yourself with the Silver Fox Breeders' Bureau, or let us recommend some wholly respected Fox Breeder.

Let us send you a **Government Bulletin on Fox raising**. Let us advise you as to starting in this fascinating game. Pelts sell at prices ranging from \$100 to \$500, or more, each, in the regular markets.

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is fun and may be the most profitable end of a self-sustaining estate, or as a part of your farm enterprise. Wooded acres near the large cities are frequently ideal spots for the business—the ranch itself occupies little space. Let us suggest plans for your profit.

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are recognized by the best trade for the highest degree of quality and type—which is the foundation of profits in the Silver Fox business.

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Know Your Fox by selecting the highest quality scientifically bred foundation stock.

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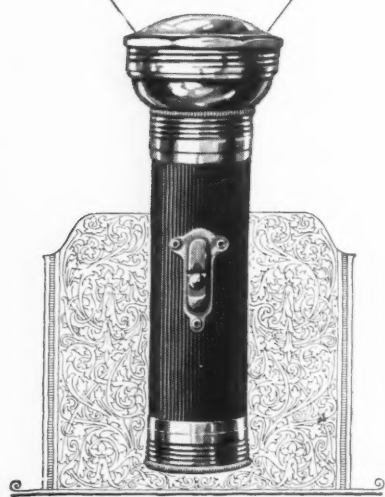
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Burgess Flashlight Uni-Cels will fit any case you may have. Try them—no better batteries are made.

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American Sportsmen Winning

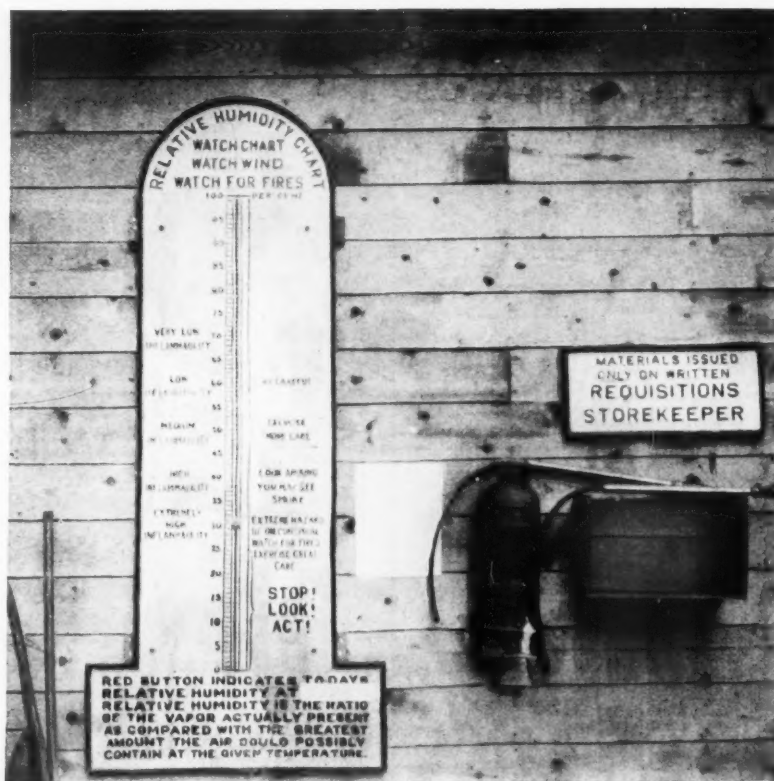
THE American sportsman is winning in his fight to conserve and perpetuate the wild game of the United States. This is the encouraging announcement of H. P. Sheldon, newly appointed as chief United States Game Warden of the Biological Survey. Mr. Sheldon was formerly State game and fish commissioner of Vermont and has been in close touch with the activities of the many agencies cooperating in the work of game conservation.

"A study of the present game situation in the United States," he says, "does not seem to warrant the pessimistic declarations we commonly hear. The melancholy atmosphere that some adopt when speaking of game conservation is an inheritance from that dark period in American game history when destruction was the rule, and when the scattered, unorganized sportsman had not yet found the weapons with which

to check it. That distressing period is definitely concluded and I sincerely believe that we are well forward in a new advance, which will be marked by a constant increase in the numbers of our valuable species of fish, birds, and animals."

"I do not wish to assert that all obstacles are safely past. There are many to which the sportsman and his agents must apply the most powerful solvent that money, interest, and cooperative effort and thought can distil. There is pressing need for anti-pollution laws, the training and employment of an adequate force of game protectors, provision for expanding the areas needed for the care and feeding of our increasing stock of game, the reduction of vermin, the study and control of disease, and the troublesome problem of harmonizing the rights of the landowner with the recreations of the sportsman who owns no shooting or fishing preserve."

Watching the Humidity for Fire Weather



Photograph by L. A. Barrett

THAT relative humidity and the occurrence of forest fires are intimately connected with each other has been known for some time now among foresters.

So much importance does the Forest Service place on this question of humidity that over large areas Uncle Sam's fire-fighting men are kept ready at hand and on

their toes whenever the humidity shows signs of dropping dangerously low.

The chart shown here has occasioned much interest among the hundred or more lumber jacks at a logging camp in the Lassen National Forest. In it relative humidity is shown in terms of fire weather. The record is taken three times daily and the chart is changed each time.

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A forest experiment station of two thousand acres, 14 years under management on a sustained yield. Large variety of silvicultural treatment in progress. Logging, milling, and marketing annually carried on. Extensive plantations established from the Forest nursery.

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The New York State College of Forestry

Syracuse University
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THE State Forest Experiment Station of ninety acres at Syracuse, the Charles Lathrop Pack Demonstration Forest of 1,000 acres at Cranberry Lake (home of the Sophomore Summer Camp), three other field experiment stations, the Roosevelt Wild Life Forest Experiment Station, a modern pulp mill, a well-equipped sawmill, a complete dry-kiln plant, the biological laboratories, and an excellent reference library afford unusual opportunities for investigative work. A four-year course in Pulp and Paper Manufacture and a short course each spring in Dry-kiln Engineering and Lumber Grading are regularly given. In addition to the regular four-year undergraduate courses, special courses are offered that lead to the degrees of Master of Forestry, Master of City Forestry, Master of Science, Doctor of Philosophy, and Doctor of Economics.

FRANKLIN MOON, Dean

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Undergraduate and graduate courses in Technical Forestry. Forestry teaching in spring and fall at Manitou Forest (a 7,000-acre Forest belonging to the School), and the winter term at Colorado Springs.

Gordon Parker, Director
Colorado Springs, Colorado

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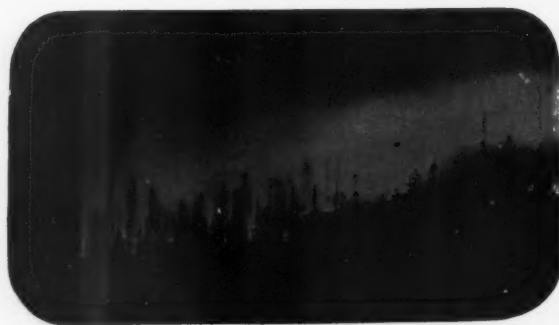
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have destroyed more merchantable timber than has been harvested for use?

That each year a line of fire 33,000 miles long and two-thirds of a mile wide eats its scarlet way through the heart of our woodlands—sapping our very national prosperity?

That over 90 per cent of the forest fires are started by human agencies?

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can help arouse the people to the need for forest fire prevention by subscribing for *AMERICAN FORESTS AND FOREST LIFE* for your local schools, libraries and clubs and by urging your friends to subscribe. In this way the necessary public sentiment will be created and larger funds will be available for carrying forward the work. Order a subscription for your school, club and library today.

